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In the Supreme Court of the United States

OCTOBER TERM, 1972

UNITED STATES OF AMERICA, APPELLANT

v.

GENERAL DYNAMICS CORPORATION, THE UNITED ELECTRIC COAL COMPANIES, and FREEMAN COAL MINING CORPORATION

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF ILLINOIS

JURISDICTIONAL STATEMENT

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OPINION BELOW

The opinion of the district court (App. A, *infra*, 1a-66a) is reported at 341 F. Supp. 534.

JURISDICTION

The opinion and judgment of the district court was filed on April 13, 1972. The notice of appeal to this Court (App. B, *infra*, 67a-68a) was filed on

June 7, 1972. On July 7, 1972, Mr. Justice Rehnquist extended the time for docketing an appeal until September 8, 1972. The jurisdiction of this Court is conferred by Section 2 of the Expediting Act (15 U.S.C. 29). *United States* v. *El Paso Natural Gas Corp.*, 376 U.S. 651.

QUESTIONS PRESENTED

1. Whether, under Section 7 of the Clayton Act, coal is a relevant line of commerce for the purpose of assessing the competitive effects of the combination of the second and fifth largest coal producers in Illinois, and the second and sixth largest in the Eastern Interior Coal Province Sales Area.

2. Whether Illinois and the Eastern Interior Coal Province Sales Area are relevant sections of the country for purposes of assessing the competitive effects of such a combination.

3. Whether, in assessing anticompetitive effects under Section 7 of the Clayton Act, it is proper for a court to consider only whether at the time of trial the acquired firm could still survive as an independent entity, without determining the competitive potential of that firm that was cut off by the acquisition.

4. Whether the trial court committed clear error in finding that the acquired company would not be able economically to mine its uncommitted strip coal reserves, could not develop the expertise to mine its own deep coal reserves, and could not acquire and develop further coal reserves.

STATUTE INVOLVED

Section 7 of the Clayton Act, 38 Stat. 731, as amended, 64 Stat. 1125, 15 U.S.C. 18, provides in pertinent part:

> No corporation engaged in commerce shall acquire, directly or indirectly, the whole or any part of the stock or other share capital and no corporation subject to the jurisdiction of the Federal Trade Commission shall acquire the whole or any part of the assets of another corporation engaged also in commerce, where in any line of commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.
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> * * * * *

STATEMENT

The United States instituted this civil antitrust case, contending that the acquisition of the stock of United Electric Coal Companies ("UEC") by Material Service Corporation ("Material Service") and its successor, General Dynamics Corporation ("General Dynamics), violated Section 7 of the Clayton Act (15 U.S.C. 18). It alleged that actual and potential competition in the Illinois and Eastern Interior Coal Province Sales Area coal markets might be substantially lessened by the acquisition. After a trial on the merits, the district court held there was no Section 7 violation.

A. The Coal Industry

The coal industry has undergone a substantial transformation in the postwar period. It lost the railroad market entirely to the diesel engine. It lost most of the home heating, and a substantial portion of the industrial, market to gas and oil (App. 11a-12a). Total coal production in the United States dropped from 441 million tons in 1947 to 278 million tons in 1954 (DX 85, Table I).[1] Since 1954 the electric utility market has become the principal mainstay of the coal industry, and by 1968 it accounted for 72 percent of total national coal consumption (DX 85, Table I). The utilities' rapidly increasing energy demands have led to a resurgence of coal production since 1954. By 1968 the United States produced 408 million tons of coal (DX 85, Table I), a production figure which is estimated to be increasing at the rate of 3.1 percent per year through 1980 (GX 232, p. 41).

Coal resources are concentrated in four distinct regions of the United States. The region whose sales area the government claimed constituted one of the "section[s] of the country" (15 U.S.C. 18) in which competition was affected by the acquisition is the Eastern Interior Coal Province, which encompasses

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[1] "DX" references are to defendants' exhibits in the district court; "GX" references are to government exhibits in the district court; "Tr." references are to the transcript of proceedings in the district court. "—— Dep." refers to depositions taken before trial. "DPF" refers to the defendants' proposed findings of fact in the district court.

the central and southern two-thirds of Illinois and much of southwestern Indiana and western Kentucky.[2] All of the mines of the acquired and acquiring companies are now located in Illinois within the Eastern Interior Coal Province.

The leading producers have accounted for an ever-increasing share of the total production in the Eastern Interior Coal Province. In the 10 years between 1957 and 1967 the top two firms increased their share of the region's total production from 29.6 percent to 48.6 percent, the top four increased their share from 43.0 percent to 62.9 percent, and the top ten increased their share from 65.5 percent to 91.4 percent (GX 86). During the same period, in the State of Illinois, the top two producers increased their share of total Illinois production from 35.5 percent to 52.9 percent, the top four increased their share from 52.2 percent to 75.2 percent, and the top ten increased their share from 81.6 percent to 98.0 percent (GX 73). This period was also marked by a sharp decline in the number of producers. A total of 145 companies were producing coal in Illinois in 1957; only 39 companies remained in 1967 (GX 73).

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[2] The other three are: (1) The Eastern Coal Province of western Pennsylvania, West Virginia, eastern Kentucky and parts of Ohio, Tennessee and Alabama; (2) The Western Interior Coal Province, comprised of central Iowa, northern and western Missouri and eastern Oklahoma; and (3) scattered deposits in Montana, Wyoming, Colorado and Utah (GX Kurtz Dep. Ex. 10, p. 47).

B. The Acquiring Company—General Dynamics, Material Services, and Freeman

General Dynamics[3] became the nation's fifth largest coal miner as a result of its acquisition of Material Service in 1959 (App. 3a). Material Service was then engaged in producing and supplying building materials, concrete, coal and limestone. It then owned all of the stock of Freeman Coal Mining Corporation (App. 3a).

In 1959 Freeman produced approximately 6.9 million tons of coal at mines located in Illinois (GX 64) and accounted for 15.1 percent of Illinois production (GX 64) and 7.6 percent of Eastern Interior Coal Province production (GX 77). It was the second largest producer in both areas (GX 64, 77). In 1967[4] it produced 8.4 million tons and accounted for 12.9 percent of Illinois production (GX 72) and 6.5 percent of Eastern Interior Coal Province production (GX 85).

Freeman sold 51.4 percent of its 1965 production (GX 88), 44.0 percent of its 1966 production (GX 89) and 42.3 percent of its 1967 production (GX 90) to customers who also purchased coal from UEC, the acquired Company. These customers consumed

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[3] General Dynamics is a large and diversified company that depends on government sales for more than 85 percent of its business (App. 2a). It ranked 27th among industrial corporations in the United States in 1968, with total sales of $2,662,238,000. (*Fortune Magazine*, May 15, 1969, p. 168.)

[4] UEC became a wholly owned subsidiary of General Dynamics at the beginning of 1967 (App. 9a).

37.4 percent of Freeman's 1965 output, 37.0 percent of its 1966 output and 39.8 percent of its 1967 output at facilities which also consumed substantial portions of UEC's output in those years (see GX 91 and *infra*, p. 8).

At the time of trial in 1970 Freeman operated four mines in southern Illinois and one mine in central Illinois (DPF 59, 60). All of the Freeman mines were deep mines (App. 6a). Freeman also owned the rights to approximately 484 million tons of deep coal reserves in Illinois (DPF 59).

C. The Acquisition and the Acquired Company (UEC)

Material Service began acquiring UEC stock in 1954 and had increased its holdings to 34 percent by 1959 when Freeman's president, Frank Nugent, was elected Chairman of UEC's Executive Committee (App. 7a-8a). General Dynamics acquired Material Service a few months later and continued to acquire UEC stock. In September 1966 General Dynamics held 66.15 percent of UEC's stock and made a successful tender offer for the remaining shares (App. 8a-9a).

In 1959 UEC produced 3.7 million tons of coal in Illinois (GX 64) and .6 million tons in other parts of the Eastern Interior Coal Province (GX 77) and accounted for 8.1 percent of the Illinois production (GX 64) and 4.8 percent of the Province's production (GX 77). It was the fifth largest producer in Illinois and the sixth largest in the Province. In 1967 it produced 5.7 million tons and accounted for

8.9 percent of Illinois production (GX 72) and 4.4 percent of the Province's production (GX 85).

UEC sold 70.2 percent of its 1965 production (GX 88), 62.1 percent of its 1966 production (GX 89) and 61.6 percent of its 1967 production (GX 90) to customers who also purchased coal from Freeman. These customers consumed 54.7 percent of UEC's 1965 output, 52.9 percent of its 1966 output and 48.2 percent of its 1967 output at facilities which also consumed substantial portions of Freeman's output in those years (see GX 91 and *supra*, p. 7).

At the time of the trial UEC operated three mines in west central Illinois and one mine in southern Illinois (App. 6a). All of the UEC mines were open pit or strip mines (*ibid.*). It has not operated an underground mine since 1954 (App. 7a). In 1970 UEC owned 52 million tons of strip reserves in its existing mines (App. 9a). It also owned 12.6 million tons of strip reserves in the Industry Field in central Illinois and 44.3 million tons of deep reserves in the Round Prairie Field in southern Illinois (DX 60A), and it controlled another 40 or 50 million tons by location in the Round Prairie Field (Tr. 314-318).[5]

UEC has consistently had one of the highest profit

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[5] Reserves contiguous to those owned, leased or optioned are "controlled by location" if, in order to be mined at all, they must be mined by the holder of the rest of the reserves in the area.

margins in the coal industry.* In 1959 UEC had a net worth of $19.6 million, $2.8 million in working capital and a long-term debt of $1.2 million (GX 24). By 1968, despite the payment of $11 million in dividends to General Dynamics (GX Nugent Dep. Ex. 22, GX 27), UEC had eliminated all long-term debt, had increased its net worth to $26.9 million, and had accumulated $10.7 million in working capital (GX 34).

D. Proceedings Below

The United States filed its complaint on September 22, 1967. The trial was held from March 30 to April 22, 1970, and the district court issued its opinion on April 13, 1972.

The government's theory of the case was that the Freeman-UEC combination was an ordinary horizontal acquisition which created an entity claiming an inordinate share of an increasingly concentrated market. The government contended that coal is an appropriate line of commerce for Section 7 purposes, that Illinois and the Eastern Interior Coal Province Sales Area are appropriate sections of the country,

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* It was the industry leader in operating income as a percentage of revenues in 9 out of 11 years from 1955 through 1965 in a Standard & Poor's survey of 13 major coal companies (GX 26, p. C76). During the period from 1959 through 1967, UEC realized profits of $24.1 million on sales of $181.2 million (see GX 25). Freeman realized profits of $15.8 million on sales of $289.9 million during the same period (GX Nugent Dep. Exs. 1-9).

and that the combination was likely to produce substantial anticompetitive effects within the relevant markets.[7]

Defendants attempted to show that Freeman and UEC were not actual or potential competitors. To this end, defendants divided the companies' sales into ten geographic areas, based largely on Freight Rate Districts. They contended that Freeman and UEC do not compete in eight of these markets and will not compete in the future in the other two. In addition they claimed that UEC was not a potential competitive force because it could not mine its own uncommitted strip mine or deep reserves, and could not acquire and develop other reserves.

The district court rejected the government's proposed product and geographic markets. It held, after a lengthy discussion of interfuel competition in the electric utility market, that "the energy market is the appropriate line of commerce for testing the competitive effect of the United Electric-Freeman combination" (App. 53a). It adopted ten geographic markets proposed by the defendants, consisting of the Commonwealth Edison Company, the Metropolitan Chicago Interstate Air Quality Control Region and utility and non-utility sales areas for coal mines

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[7] The Eastern Interior Coal Province Sales Area is comprised of Illinois, Indiana, the western half of Kentucky, the western one-third to one-half of Tennessee, the extreme eastern portion of Missouri on or near the Mississippi River, the eastern half of Iowa, southeastern Minnesota, and southern Wisconsin.

located in each of four different Freight Rate Districts (App. 56a-59a).[8]

In addition the district court stated that even if it were to accept the government's geographic markets, the government's "failure to show that a substantial lessening of competition resulted from the United Electric-Freeman combination is fatal to this divestiture action" (App. 59a-60a). The district court's conclusion of a lack of anticompetitive effect rested on subsidiary findings (a) that UEC's reserves of coal for strip mining were small and the government had not shown that it could acquire additional economically mineable strip reserves (App. 63a), (b) that UEC did not have and could not acquire the skill to mine its own expansive deep reserves (App. 65a), and (c) that UEC and Freeman are "predominantly complementary in nature" (App. 61a) because of their different mining techniques, because Freeman produces some dust and metallurgical coal while UEC does not, and because Freeman produces some coal that has a lower sulphur content than the UEC coal (App. 61a-62a).

THE QUESTIONS ARE SUBSTANTIAL

This appeal raises substantial questions concerning the proper criteria for the analysis of product

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[8] Parts II and III of the district court's opinion (App. 11a-53a), which contain all of the factual findings underlying the court's product and geographic market definitions, consist *verbatim* of Defendants' Proposed Findings of Fact Nos. 138-282 (omitting Nos. 209-210; 217-218; 234-235; 241; 250; 253; 280-281). Compare *United States* v. *El Paso Gas Co.*, 376 U.S. 651, 656-657.

and geographic markets, and the proper standards for assessing the anticompetitive effects, in Section 7 cases. In rejecting coal as a relevant product market, the district court departed from the consistent teachings of this Court that there may be more than a single "line of commerce" relevant for Section 7 purposes. In addition, the district court adopted, as the relevant geographic markets, a patchwork of small "markets" based on the sales area for the freight rate district in which each of the defendants' mines was located, despite the fact that the mines sold more than half of their production outside of those "markets." Finally, the court improperly assessed the competitive potential of UEC, the acquired company, by looking at the state of the company's resources and prospects at the time of trial in 1970 rather than at the time of acquisition in 1959. And, even in making this determination, the trial court committed clear error in finding that UEC would not be able economically to mine its uncommitted strip reserves, could not develop the expertise to mine its own deep reserves, and could not acquire and develop any others.

1. Whether or not the trial court was correct in finding the "energy market" (App. 53a) to be a "line of commerce," it erred in rejecting coal as a relevant submarket. As this Court clearly explained in *Brown Shoe Co.* v. *United States*, 370 U.S. 294, 325:

> The outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between

> the product itself and substitutes for it. However, within this broad market, well-defined submarkets may exist which, in themselves, constitute product markets for antitrust purposes. * * * The boundaries of such a submarket may be determined by examining such practical indicia as industry or public recognition of the submarket as a separate economic entity, the products' peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors. * * *

Brown Shoe thus recognizes that, on the one hand, defining a Section 7 "line of commerce" only to include all substitutes may frustrate the congressional purpose by obscuring the effect of a merger between sellers of any one of the substitutable products; while, on the other hand, defining it only in terms of a single product may equally frustrate the congressional purpose by excusing mergers between sellers of substitutes. In view of the expressed congressional desire to prevent mergers which may substantially lessen competition in *any* line of commerce, the Court concluded that the effects of a merger must be examined not only in the broader product market, but also "in each such economically significant submarket * * *" (*ibid.*).

The record demonstrates that coal satisfies all the "practical indicia" of a submarket set forth in *Brown Shoe*. It is classified as a separate industry by the Office of Budget and Management (GX 29, p. 612), and the industry has its own trade associations, labor

unions and trade publications (Kolbe Dep. 168-169). Coal is produced, processed, and distributed by means, methods and facilities that differ from the means, methods and facilities used for other fuels (Tr. 1388-1389, DX 150, DX 116, pp. 75-89). And the major coal deposits are also located in different areas from the principal locations of other fuels (DX 150, p. 55). Coal is sold at a delivered price per BTU which is considerably lower than that for any other fuel except interruptible natural gas, which is available only on a seasonal basis (GX 35, GX 36, GX 37). Coal's price advantage makes it the primary fuel source for consumers such as electrical utilities whose fuel costs represent a significant part of their cost of doing business. Coal contributed 90 to 93 percent of the BTU's of heat consumed by steam electric utility plants in the Eastern Interior Coal Province Sales Area in each of the years 1960 through 1967 (GX 31) and 74.1 percent of the BTU's consumed by cement plants in that area during 1967 (GX 32).

The district court's failure to recognize coal as a relevant line of commerce stemmed from its misunderstanding of this Court's decision in *United States* v. *Continental Can Co.*, 378 U.S. 441. While the Court there did hold that evidence of competition between glass and metal containers indicates the existence of a "line of commerce" encompassing both, it by no means held that they together constituted the only "line of commerce" relevant for Section 7 purposes. On the contrary, the Court specifically recognized that each might constitute a separate line of

commerce: "Glass and metal containers were recognized to be two separate lines of commerce. But given the areas of effective competition between these two lines, there is necessarily implied one or more other lines of commerce embracing both industries" (378 U.S. at 456-457). Moreover, *Continental Can's* holding itself evidences the continuing vitality of the submarket concept, since the decisive line of commerce there was recognized to be a subdivision of a broader "container" market. 378 U.S. at 457-458.*

2. Having rejected coal, and opted for the "energy market" as the exclusively relevant product market, the trial court proceeded to adopt a patchwork of geographic markets, which, far from being defined by the marketing of "energy," were defined by alleged distribution patterns of various subspecies of coal.

The defendants proposed ten geographic markets, which the court adopted out of context. The defendants' proposed markets were not designed to illustrate how "energy" is distributed in the midwest, or even primarily to show how coal is distributed, but rather to attempt to prove that Freeman and UEC did not compete. Quite apart from the failure of defendants' markets to explain away the fact that UEC and Freeman sold about half of their produc-

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* See also *Reynolds Metals Co.* v *Federal Trade Commission*, 309 F.2d 223 (C.A. D.C.), in which the court of appeals stated, in analyzing the *Brown Shoe* decision, that distinct submarkets "may henceforth be the focal point of administrative and judicial inquiry under Section 7." *Id.* at 226.

tion to the same facilities of the same customers, they were not geographic coal markets.

Defendants' proposed geographic markets were based on the utility and non-utility sales areas for the four Freight Rate Districts in which Freeman's and UEC's mines were located at the time of trial.[10] Defendants purported to show that there was no competitive overlap between the sales areas of the districts in which Freeman's mines were located and of those in which UEC's mines were located. In order to reach this result, it was necessary for defendants to exclude all sales to Chicago, all sales to Commonwealth Edison and all sales of coal dust. This resulted in the exclusion of more than half of the production from these Freight Rate Districts—26.3 million tons out of 50.3 million tons (DX 55).

Defendants attempted to justify these enormous exclusions on the basis of differences in product. They contended that Commonwealth Edison[11] and Chicago sales can be disregarded because these customers will not in the future be buying coal from the Freight Rate Districts in which UEC's mines are located[12]

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[10] UEC's mines were located in the Fulton-Peoria and Belleville Freight Rate Districts; Freeman's mines were located in the Springfield and Southern Illinois districts.

[11] Thus, by accepting the defendants' markets for a purpose for which they were not intended, the district court has concluded that the Commonwealth Edison Company is a "section of the country" for Section 7 purposes.

[12] Defendants also contended that Commonwealth Edison should be segregated because of its unique consumption patterns and its commitment to nuclear energy (see App. 58a).

because the coal there has a high sulphur content,[13] and they contended further that dust sales can be disregarded because coal dust and coal screenings are not competitive products.

These contentions are refuted by the record. Commonwealth Edison must continue to use coal of high sulphur content to meet its great fuel needs (see Tr. 1996); the record shows Chicago customers can comply with air pollution regulations by mixing low sulphur coal with high sulphur coal (Stanley Dep. 24-25); and many utilities have facilities capable of substituting regular coal screenings for coal dust.[14]

By contrast, the government's proposed markets were designed to identify an economically significant area in which the effects of the merger will be felt. *United States* v. *Philadelphia National Bank*, 374 U.S. 321, 357. Approximately 82 percent of the coal produced in the Eastern Interior Coal Province was sold in the Eastern Interior Coal Province Sales Area in 1967 (GX 52) and more than 99 percent of the coal consumed by electric utilities in the area was produced in Eastern Interior Coal Province mines (GX 61). In the same year Freeman and UEC

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[13] Thus, in adopting "energy" as the product market while adopting these narrow geographic markets, the district court held that, while various other forms of energy compete with coal, different kinds of coal do not compete with each other.

[14] The district court itself recognized the competition of coal dust and coal screenings. It noted that "special equipment for the handling and burning of dust has been developed and installed at certain generating facilities which permits the use by them of limited amounts of dust along with regular coal screenings as boiler fuels" (App. 6a, n.6).

sold 93.3 percent and 97.6 percent, respectively, of their production in this area (GX 52). Illinois is also a relevant market. In 1967 Illinois coal customers purchased 82 percent of their requirements from Illinois mines (GX 51). See *United States* v. *Pabst Brewing Company*, 384 U.S. 546, 549.

3. A horizontal merger is particularly likely to result in a substantial lessening of competition because it produces a direct and immediate increase in the level of concentration in a market. This Court, accordingly, has consistently measured a challenged horizontal combination's effect upon market structure and has attached primary importance to that factor. The Court stated in *Brown Shoe Co., supra*, that statistics "reflecting the shares of the market controlled by the industry leaders and the parties to the merger are, of course, the primary index of market power * * *." 370 U.S. at 322, n. 38. In *United States* v. *Philadelphia National Bank, supra*, the Court concluded that in some circumstances the market shares of the merging parties is more than a "primary index" of market power and the combined market share alone may demonstrate that a merger "is so inherently likely to lessen competition substantially that it must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects." 374 U.S. at 363. The Court declined to specify the minimum combined market share which will establish *prima facie* illegality, but concluded that the merging banks' combined share in excess of 30 percent was clearly

sufficient. In *United States* v. *Continental Can Co.*, *supra*, the Court reversed a dismissal at the end of the government's case where the combined firms accounted for 25 percent of the appropriate market.

The Court concluded in *United States* v. *Von's Grocery Co.*, 384 U.S. 270, and *United States* v. *Pabst Brewing Co.*, 384 U.S. 546, that mergers involving considerably smaller combined market shares are likely to result in a substantial lessening of competition if the merger occurs in a market which has experienced a rapid increase in the level of concentration. In *Von's Grocery*, the Court noted that the merger involved the combination of the third and sixth largest firms in the Los Angeles area to form the second largest firm with a combined market share of 7.5 percent, further noted that there had been a rapid increase in the level of concentration, and declared that "[t]hese facts alone are enough to cause us to conclude contrary to the District Court that the Von's-Shopping Bag merger did violate Section 7." 384 U.S. at 274. Mr. Justice White's concurring opinion in *Von's Grocery* emphasized that the degree of concentration within the market as measured by the market shares held by the leading companies must also be considered. 384 U.S. at 281. In *Pabst*, the merging firms accounted for 4.49 percent, 11.32 percent and 23.95 percent of the three proposed markets. The Court found on the basis of these market shares and the trend toward concentration that *prima facie* illegality had been established in all three markets. 384 U.S. at 551-552.

In view of the pronounced trend toward concentration in the Illinois and Eastern Interior Coal Province Sales Area markets and the leading position of the combined firms in those markets (*supra*, pp. 5-8), the Freeman-UEC combined shares in those markets—23.2 percent in Illinois and 12.4 percent in the Province in 1959 (*supra*, pp. 6, 7)—was clearly sufficient to require (in the absence evidence clearly showing the contrary) the conclusion that the combination "may * * * substantially * * * lessen competition * * *" (15 U.S.C. 18).

4. Notwithstanding this showing, the trial court held that "the Government's failure to show that a substantial lessening of competition resulted from the United Electric-Freeman combination is fatal to this divestiture action" (App. 60a). In reaching this conclusion the court committed at least two errors.[15] The court erred, as a matter of law, in assessing the competitive potential of an independent UEC, by looking at its actual and potential resources only as they stood after 11 years of control by its competitor, *i.e.*, by looking into whether, at the time of trial, it could survive, if divested. And, in any event, the

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[15] The quoted language also raises the possibility that the court believed that the government's structural evidence did not even establish a *prima facie* case. This would clearly be error under *Philadelphia Bank, Von's Grocery Co.* and *Pabst Brewing Co., supra.* However, since the court rendered it's opinion after the close of trial, it cannot be said with certainty whether the court was speaking of the government's burden or of its view of all the evidence introduced by both sides. Our argument assumes the latter.

court erred in concluding that UEC is not now a potentially viable independent competitor.

Stating that "[t]he adequacy of crucial resources" is essential to a competitor (App. 63a), the court held: "The Government failed to come forward with any evidence that such reserves are *presently* available" (App. 63a) (emphasis in original). Similarly, the court ruled: "United Electric *has* neither the possibility of acquiring more nor the ability to develop [its own] deep coal reserves" (App. 65a) (emphasis added). Conversely, the court made no assessment of what UEC might have been able to do, had it remained independent in, and after, 1959.

This was legal error. It is true that Section 7 requires the court to consider, from the vantage point of the time of suit, whether the acquisition may substantially lessen competition (*United States* v. *duPont & Co.*, 353 U.S. 586, 596-598, 607), and that in some circumstances post-acquisition evidence may show that "the acquisition threatens to ripen into a prohibited effect" (*id.* at 597). But it is equally fundamental that Section 7 deals in potentialities, and that post-acquisition behavior must not be permitted to obscure the real competitive potentialities cut off by the acquisition. As the Court explained in *Federal Trade Commission* v. *Consolidated Foods Corp.*, 380 U.S. 592, 598:

> [T]he force of § 7 is still in probabilities, not in what later transpired. That must necessarily be the case, for once the two companies are united no one knows what the fate of the acquired

company and its competitors would have been but for the merger.

Consequently, the Court held, post-acquisition evidence is not to be "given conclusive weight or allowed to override all probabilities * * *" (*ibid.*).[16] It follows that the district court erred in the present case by assessing the relevant competitive effects solely on the basis of whether the acquired firm could survive *at the time of trial* as a competitive entity, without also (and more significantly) determining the competitive potential cut off by the acquisition.

But even assuming that it was proper for the court to consider UEC only as it was at the time of trial, the court clearly erred in finding that UEC could not then acquire the expertise to mine its deep reserves and would not be able economically to mine its uncommitted strip reserves. UEC began acquiring deep reserves in the Round Prairie Field in 1958 (Tr. 170-171, Dorrance Dep. 27), the year before Material Service assumed control of UEC. Defendants' coal reserves expert testified that coal companies do not acquire coal reserves unless they intend to mine them (Organ Dep. 151). This was not an unrealistic expectation. Humble Oil made a *de novo* entry into deep mining in Illinois after 1964. It constructed a deep mine at a cost of between $10 million and $20 million (excluding the

[16] See, also, *United States* v. *Continental Can Co., supra*, 378 U.S. at 463; *United States* v. *Penn-Olin Chemical Co.*, 378 U.S. 158, 170, 177; *Federal Trade Commission* v. *Procter & Gamble Co.*, 386 U.S. 568, 577.

cost of reserves), which is expected to produce 3,000,000 tons per year for 20 to 30 years, and it has contracted to sell coal to Illinois utilities (Stipulated Testimony of George H. Shipley). Ayrshire Collieries Coal Company also developed a deep mine after many years of operating exclusively as a strip mining company (Tr. 1867-1871).

A former UEC president with deep mining experience testified that, as of 1969, a deep mine with annual capacity of one million tons of production could be constructed at Round Prairie at a cost of 7 to 8 million dollars (Camicia Dep. 32-33, 193-194). A company with $10.7 million in working capital, a net worth of $26.9 million and *no* long-term debt obviously could obtain the funds to undertake such an investment and to hire the experts it might need. Accordingly, the court's apparent finding that an independent UEC would not be capable of entering deep mining and continuing as a major competitor in the relevant coal market is clearly erroneous on this record.

The district court's similar finding (App. 63a) that existing strip reserves, including the UEC reserves at Industry Field, will not become economically feasible to mine before the present UEC mines are exhausted, is also erroneous. The depths and stripping ratios at which coal can be economically stripped have continuously increased over the years (Nugent Dep. 373, 374; Tr. 93, 1866; Organ Dep. 111-112, 136-137). And a former UEC president testified in his 1968 deposition that the Industry Field will be mined when

commercially mineable coal in Fulton County is exhausted in 10 or 12 years (Nugent Dep. 343). Exhaustion of the last of UEC's present mines is not expected to occur until sometime in the 1980's (see DX 60-C).

Moreover, if UEC does not now have adequate reserves, or the prospect of acquiring more, it is because of management policies imposed on it *after* the acquisition. After 1959 UEC management did not acquire strip reserves except in the area of existing mines although other companies were acquiring Illinois strip reserves for future mining during the 1960's (Tr. 1667-1668, 1867-1869, 1883-1885).

It is thus apparent that if UEC had remained independent, it would have had the means and the incentive to acquire any additional reserves it may need to remain in the strip mining business and to undertake the mining of its deep coal reserves. Accordingly, the district court should have found that the 1959 combination did eliminate an effective competitor and should have fashioned proper relief to restore UEC to the competitive position it would have occupied if the combination had not occurred. *Utah Commission* v. *El Paso Natural Gas Co.*, 395 U.S. 464, 470.

CONCLUSION

Probable jurisdiction should be noted.

Respectfully submitted.

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SEPTEMBER 1972.

APPENDIX A

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

No. 67 C 1632

[Filed Apr. 13, 1972]

UNITED STATES OF AMERICA, PLAINTIFF.

vs.

GENERAL DYNAMICS CORPORATION; THE UNITED ELECTRIC COAL COMPANIES, AND FREEMAN COAL MINING CORPORATION, DEFENDANTS.

DECISION ON THE MERITS

In this antitrust divestiture action, the Government attacks the 1966 merger of General Dynamics Corporation with The United Electric Coal Companies (United Electric). The Government bases its complaint upon the contention that the General Dynamics-United Electric merger violated Section 7 of the Clayton Act. 15 U.S.C. § 18.[1] The juris-

[1] Section 7 of the Clayton Act provides, in pertinent part, as follows:

"No corporation shall acquire, directly or indirectly, the whole or any part of the stock or . . . assets of one or more corporations engaged in commerce, where in any line of commerce in any section of the country, the effect of such acquisition . . . may be substantially to lessen competition, or to tend to create a monopoly."

diction of the court pursuant to 15 U.S.C. § 25 is undisputed. After a trial on the merits and evaluation of the massive quantity of evidence submitted by the parties,[1] this court is of the opinion that judgment should be rendered for the defendants.

I. THE DEFENDANTS

General Dynamics

The defendant General Dynamics Corporation (General Dynamics) is a Delaware corporation with its principal executive offices located in New York. General Dynamics is a large, diversified corporation selling to government services and agencies, as well as to industrial and commercial customers. Over 85 per cent of General Dynamics' annual sales are to government services and agencies, and principally consist of aircraft, space, communications, and marine products. General Dynamics' sales to industrial and commercial consumers include commercial communication equipment, building materials, lime, machinery, and the subject of this litigation: coal.

The evidence at trial reveals that General Dynamics acquired Material Service Corporation (Material Service) in 1959, as part of its attempt to diversify into commercial, nondefense business. Material Service was at that time a midwest producer and sup-

[1] The record in this case consists of more than 7,500 pages of trial transcript and deposition testimony, and more than 800 trial and deposition exhibits, containing in excess of 10,000 pages.

plier of building materials, concrete, coal and limestone; it owned all of the stock of the defendant Freeman Coal Mining Corporation (Freeman) and 34 per cent of the outstanding stock of the defendant United Electric.

At the time of the General Dynamics-Material Service merger, General Dynamics was also seeking diversification through development of commercial products stemming from such subsidiary programs as the Convair 880/990 jet transport; Canadair's commercial turbo-prop CL-44 and CL-540 aircraft; General Atomic's nuclear research maritime and power reactors; Liquid Carbonic's industrial gases; and Stromberg-Carlson's telephone and high fidelity sound equipment. By the time of trial, however, these diversification ventures had been discontinued or sold, with the exception of Stromberg-Carlson's communication equipment business. In the early 1960's, General Dynamic's Convair Division phased out its commercial jet transport production program. During 1967, General Dynamics sold General Atomic to Gulf Oil Corporation, and in 1969, as a result of an adverse decision in *United States* v. *General Dynamics Corp.*, 258 F.Supp. 36 (S.D.N.Y. 1966), it sold Liquid Carbonic to Houston Natural Gas Corporation.

General Dynamics is the fifth largest coal miner among commercial producers. Through its two coal subsidiaries, Freeman and United Electric, General Dynamics had combined sales of nearly 15 million tons in 1967. The evidence did not disclose that

General Dynamics presently engages in any aspect of either the electric utility or fuel industries other than coal production.

Freeman Coal Mining Corporation

The defendant Freeman is an Illinois corporation headquartered in Chicago, Illinois. Freeman was acquired by the Burton Coal Company in 1922, the same year it acquired its first mine, the Bobby Dick, located in Williamson County, Illinois. Throughout its history, Freeman's mining operations have been centered in Jefferson, Franklin and Williamson counties in the Southern Illinois Freight Rate District.[3] In addition, it has operated the Crown Mine in the Springfield Freight Rate District located in central Illinois.

Material Service acquired Freeman and the assets of Burton Coal Company, both of which were in bankruptcy, in 1942. Empire Building Corporation which, like Material Service, was controlled by the Henry Crown family, acquired the stock of the Chicago, Wilmington & Franklin Coal Company (CW&F) in 1954. After the acquisition of CW&F stock by Empire Building Corporation, Freeman operated the mines of CW&F and sold the coal which they produced. Thus from 1955 forward, CW&F and Freeman were, for all practical purposes, one coal company.

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[3] The Interstate Commerce Commision has designated various coal producing areas within Illinois, Indiana and western Kentucky as Freight Rate Districts. See, *e.g.*, *Ayrshire Collieries Corp.* v. *United States*, 335 U.S. 573 (1949).

Among 37 coal producers in the midwest, Freeman ranks eighth in terms of coal reserves in Illinois, Indiana and western Kentucky, but controls less than four per cent of the total midwest reserves controlled by these companies in 1968. Of the nine "leading" Illinois coal producers[4] reporting their coal reserves, Freeman ranks sixth in reserve holdings. Of the 11 "leading" producers in the three-state area, Freeman ranks seventh in reserve holdings. Freeman controls 6.5 per cent of the more than 2 billion tons of coal reserves dedicated to existing mines in Illinois, Indiana and western Kentucky as of 1968.

While Freeman's reserves in central Illinois are of relatively low BTU value[5] and have a sulphur content of over three per cent, substantially all of the reserves and production at Freeman's Orient mines are high quality, high BTU coal with a sulphur content of less than 2.5 per cent, and ranging as low as one per cent. Approximately one-half of Freeman's other reserves in Williamson and Jefferson counties have a sulphur content of less than 1.5 per cent.

Approximately eight per cent of Freeman's production is sold for metallurgical purposes, and an addi-

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[4] The Government in its statistical exhibits has designated certain midwest coal producers as "leading producers." *See, e.g.*, Government Exhibits 79 and 85.

[5] Coal, gas, oil and nuclear energy produce heat, measured in terms of BTU's (British Thermal Units).

tional 10 to 11 per cent is sold as dust.* All of Freeman's mines are deep shaft operations and, aside from its relationship with United Electric, Freeman does not appear to have ever operated any strip mines and apparently possesses neither experience nor expertise in strip mining. None of Freeman's mines or coal reserves are located in a Freight Rate District in which United Electric operates a mine or controls reserves.

The United Electric Coal Companies

The defendant United Electric was formed in 1919 as a consolidation of several coal properties located in the vicinity of Danville, Illinois. United Electric presently operates only the following four strip or open pit mines, all of which are in Illinois: the Cuba Mine located in Fulton County and opened in the early 1920's; the Fidelity Mine located in Perry County and opened in 1928; the Buckheart Mine located in Fulton County and opened in 1937, and the Banner Mine located in Fulton and Peoria counties and opened in 1960. In addition, United Electric has operated the following strip mines for the periods of time indicated: the Freeburg Mine located in St.

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* The trial testimony indicates that dust is a by-product which occurs during the preparation of metallurgical coal. In the past, it was thrown away on "gob piles" at the mines. In more recent years, however, special equipment for the handling and burning of dust has been developed and installed at certain generating facilities which permits the use by them of limited amounts of dust along with regular coal screenings as boiler fuels. Dust is sold at a price under its cost of production.

Clair County, Illinois, was reopened in 1936, having been idle since 1933, and was closed in 1949; the Solar Mine located in Schuyler County, Illinois, was opened in 1945 and was closed in 1949; the Buffalo Creek Mine located near Madisonville, Kentucky, was opened in 1947 and was closed in 1959; the Skyline Mine located in Breathitt County, Kentucky, was opened in 1952 and was closed in 1956; and, finally, the Mary Moore Mine located in Vermillion County, Illinois, was opened in 1955 and was closed in 1965 upon the exhaustion of strippable reserves. United Electric also had a small deep coal mine in the 1920's and an underground mining operation at its Buffalo Creek Mine from June of 1952 until 1954. The evidence indicates that although United Electric was the largest strip coal mining company in Illinois in 1948, during the succeeding 20 years it opened only two new mines in the midwest (Banner and Mary Moore) and closed four mines (Solar, Freeburg, Buffalo Creek, and Mary Moore). Furthermore, it was shown at trial that the Cuba Mine was likely to close in the immediate future, while the Banner Mine would be exhausted in approximately five years.

Ownership and management of United Electric remained essentially the same from the late 1930's until 1954, when Material Service acquired 10 per cent of United Electric's stock. This acquisition was disclosed that year to both the Government and United Electric's stockholders. During the course of the next few years, Material Service increased its ownership in United Electric; by 1959, Material

Service controlled more than one-third of United Electric's outstanding stock. That year Material Service (and Freeman, its wholly-owned coal subsidiary) requested and received representation on United Electric's Board of Directors. As a result, Frank Nugent, President of Freeman, was made Chairman of United Electric's Executive Committee.

With the affiliation of Freeman and United Electric thus formalized in 1959, common control of the two coal companies was achieved.[1] This development was immediately disclosed to the public, as well as to competitors and customers of both Freeman and United Electric. Within months, Material Service was itself acquired by General Dynamics. An investigation by the Antitrust Division of the Department of Justice ensued, during which the Government was furnished information with respect to the stock ownership of Freeman and United Electric. No further action was taken by the Government.

During the early 1960's, General Dynamics continued to purchase United Electric stock, and, by 1966, immediately prior to its tender offer for the balance of United Electric's outstanding shares, General Dynamics held 66.15 per cent of the outstanding shares of United Electric's stock. In addition, throughout this period, the Material Service Profit Sharing Trust owned approximately 6.8 per cent of the outstanding stock of United Electric. General Dy-

[1] The evidence shows that United Electric had earlier made unsuccessful attempts to merge with, or to acquire, other Illinois coal producers.

namic's control of United Electric was continually disclosed to the public throughout the 1960's.

At the Board Meeting of General Dynamics on September 30, 1966, the directors authorized a tender offer to purchase the remaining outstanding shares of United Electric. That tender offer was successful: as of December, 1966, General Dynamics had acquired at least 90 per cent of the outstanding shares of United Electric stock, and shortly thereafter United Electric became a wholly-owned subsidiary of General Dynamics. The Government then filed this action on September 22, 1967, challenging the legality of the United Electric-General Dynamics affiliation under Section 7 of the Clayton Act.

The four operating United Electric mines (Cuba, Buckheart, Banner, and Fidelity) produced 5,750,000 tons of coal in 1967. As of December 31, 1969, United Electric's midwest coal reserves were down to approximately 118,000,000 tons.* Only 52,000,000 tons, consisting of Illinois strip reserves dedicated to United Electric's four existing mines, were shown at trial to be economically mineable. *Significantly, all but 4 million tons of the economically recoverable coal reserves of United Electric have been sold under long term contracts.* The balance of United Electric's coal reserves consists essentially of strip reserves at the Industry Field in McDonough and Schuyler counties in Illinois, and undeveloped deep reserves in the

* United Electric also controls certain coal deposits located in Colorado and Oklahoma, which are not in issue in this litigation.

Round Prairie Field in the Belleville Freight Rate District.

Among 37 coal producers in Illinois, Indiana, and western Kentucky, United Electric ranks eleventh in coal reserves, with less than one per cent of the total midwest reserves controlled by these companies in 1968. Of the nine "leading" Illinois producers [9] that reported their reserves, United Electric ranked eighth in reserve holdings. Of the 11 "leading" producers in the three-state area, United Electric ranked tenth in reserve holdings. Of the more than 2 billion tons of coal reserves dedicated to existing mines in Illinois, Indiana and western Kentucky, United Electric controlled 52,033,304 tons (of which only 4 million tons were contractually uncommitted) or approximately 2.5 per cent.

In contrast with Freeman, all of United Electric's production and coal reserves have an average sulphur content greater than 2.5 per cent. Furthermore, United Electric produces virtually no metallurgical coal. Combining statistically the reserves and production of United Electric and Freeman the result is as follows: The two companies together control 4.81 per cent of the total coal reserves in Illinois, Indiana and western Kentucky,[10] and account for 10.9 per cent of the area's production, *a more than 10 per cent decrease in the combination's percentage of such production since 1959.*

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[9] See n. 4, *supra.*

[10] If United Electric's unmineable reserves are excluded, the per cent of coal reserves controlled by these two companies would aproximate 4.25 per cent.

II. BACKGROUND OF THE COAL INDUSTRY

Coal mining today is undergoing a period of rapid and pervasive change. Major readjustment in the structure and patterns of coal production and distribution has been required, and continues to be required."

Changes in the Demand for Coal

In 1920, coal accounted for 78.4 per cent of the energy resources consumed in this country. With the exception of the years during World War II, coal's share of the energy market declined steadily thereafter, and by 1968 represented only 21.4 per cent of this nation's energy resources. Since World War II, coal has been a decreasingly effective competitor for a number of uses and has been unable to maintain its position as a dominant fuel. Coal consumption in the United States declined from 441 million tons in 1947 to 277 million tons by 1954, primarily because coal lost its railroad and home heating markets to oil and gas. There is no longer a railroad market for coal, and since World War II the use of coal for space heating has declined 80 per cent or more. Furthermore, its use in the industrial market has failed to keep pace with the growth of in-

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" As long ago as 1955, the president of the Chicago, Wilmington and Franklin Coal Company, a midwestern coal producer, had commented that "[t]he coal mining industry has run into a series of evolutionary changes which have caused a shrinkage in demand for its product and have brought severely competitive conditions." Defendants' Exhibit 48.

dustry during this period. The evidence clearly shows that coal's decline in these markets will continue as additional residential and industrial consumers convert to oil and gas.[12] The net result of these losses has been a diminished position for coal in the overall energy resource consumption pattern. Coal consumption in 1967 and 1968 was less than in 1947 and 1948. These national trends and patterns are paralleled in the midwest.

Emergence of Utility Demand as the Principal Market for Coal

As a result of market losses to other forms of energy, the utility market has become the mainstay of coal production, although the use of coal has not kept pace with the growth of utility output. In the utility market, coal also faces competition from other sources of energy, including not only natural gas, oil, and nuclear fuel, but also such emerging competitors as pumped storage[13] and geothermal energy.[14] The

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[12] As one retail coal dealer in Chicago expresed it: "We feel that the retail coal industry, as an industry, if you can call it that, has a life of only about five years. . . . I think you could compare it to the ice business." Peterson Deposition, p. 14.

[13] At a pumped storage facility, water is pumped into an elevated reservoir by energy generated at the most economical base-load station during off-peak hours. During the periods of peak demand, the cycle is reversed and the water runs down from the facility through hydroelectric turbines to generate power.

[14] In a geothermal system, underground steam is tapped directly to provide power to drive turbine generators.

evidence clearly indicates that coal's present dominant position in the utility industry will suffer increasing erosion, and nuclear energy may eventually displace coal entirely as an energy source for midwest utilities. Ernest Tremmel, Director of the Division of Industrial Participation of the United States Atomic Energy Commission, testified that, in the long term, electricity could be generated at the lowest cost by a utility system combining nuclear and pumped storage facilities, together with gas turbine peaking units.

More immediately, air pollution abatement regulations will have an adverse impact on coal during the next 10 to 20 years due to their effect on interfuel competition and consumption patterns of coal. A number of witnesses testified that there is and will continue to be a tendency to turn to other fuels, such as gas, oil, and nuclear energy, as a means of coping with air pollution abatement regulations. The net effect of this trend will be an increase in the consumption of these fuels at the expense of coal. In their report to the Federal Power Commission, the West Central Region Advisory Committee [15] predicted that in the midwest, coal's share of the electric utility market would decline from 72.2 per cent in 1966 to 22.2 per cent by 1990, and nuclear energy's share will increase from one per cent to 69.7 per cent in the same period. The report specifically stated that:

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[15] This committee includes executives of such major midwest utilities as Commonwealth Edison, Northern States Power, Wisconsin Electric Power, Union Electric Company and Illinois Power Company, among others.

> "During the period 1970-1990, electric generation will be dependent upon five basic forms of energy—coal, gas, oil, hydro, and nuclear. . . . Coal, however, will be faced with continuing pressures from other forms of energy, and based on present trends the most significant competition will be from nuclear energy." Defendants' Exhibit 257, p. II-9.

Thus, the competitive situation within the energy market as a whole is already more fluid than it has ever been before and will become increasingly so in the future. Dr. Bruce C. Netschert, an expert in energy economics, testified that:

> "Competition is today more severe, more keen, among the fuels and between the fuels and between the fuels and electricity, and . . . intersubstitutability is also greater than it has been before. . . . [B]oth this competition and this intersubstitutability is likely to increase in the future. The choice facing the consumer is wider than ever before and will become still wider. Netschert Deposition, p. 53.

Changes in the Production of Coal

The fact that coal continues to be one of the suppliers of the energy requirements of the electric utilities reflects the success of coal producers in delivering coal at a low cost per BTU.[16] That coal producers

[16] The report of the West Central Advisory Committee to the Federal Power Commission, discussed *supra*, also stated that "[d]uring the past twenty years the coal industry has contributed a great deal to the stability of fuel prices." Defendants' Exhibit 257, p. II-9.

have been able to do this, despite sharply rising costs, reflects the technological revolution that has led to enormous increases in productivity, and to the ability to negotiate bulk shipment and unit train freight rates. The testimony and exhibits indicate that both coal prices and coal rail rates have increased far less than other prices in the economy.

Since 1947, despite a substantial rise in the level of the wholesale price index and labor costs, the delivered price of energy from coal has remained relatively stable. In fact, allowing for inflation, the price of coal at the mine mouth today is actually less than it was at the beginning of the postwar period. Defendants' Exhibit 85, Tables XX, XXI, XXIV. Since World War II, wage costs and fringe benefits have increased markedly in the coal industry. There has been a virtual revolution in mining technology, with the introduction of wholly new techniques, significant improvement in old techniques and a substantial increase in scale. The evidence shows that the effect of these technological changes has been to increase productivity (as measured in output per man-day) sufficiently to enable the f.o.b. mine price of coal to be kept competitive and relatively stable in the face of general inflation in wholesale prices. *E.g.*, Defendants' Exhibit 85, p. 4. Since World War II, the increased competitive pressure on coal in the utility market has led to increased pressure on the railroads to offer lower rates and has generated major technological innovations in railroad transportation, such as the unit train, which have permitted lower freight rates.

Changes in the Structure of the Coal Industry

The effect of the changes since World War II in the patterns of coal consumption and marketing, in labor costs, in mining technology, in productivity, in coal preparation procedures and in transportation costs has been to enhance the economies of scale production and to greatly increase capital requirements. This, in turn, has led to an increase in the size of mines. The parties stipulated that 83 percent of the coal produced in 1967 in Illinois, Indiana and western Kentucky, for example, was produced at mines with annual production exceeding 1 million tons; and 49 per cent from mines producing more than 2 million tons a year. Moreover, of the 36 mines placed in operation or announced in Illinois, Indiana and western Kentucky since 1958, none was smaller than 500,000 tons annual capacity, 29 were of a 1,200,000 tons annual production size or greater, and 20 produced or will produce 2 million tons or more per year. Defendants' Exhibit 87, Table 4. Clearly, mines of this size can only be operated by large coal producers. A 2 million ton strip mine, for example, would cost between $12.7 million and $23.5 million to construct, depending upon the overburden ratio,[17] and would necessitate 40 million tons of coal reserves. Defendants' Exhibit 87, Table 5a.

There are fundamental differences between the mines of the eleven "leading" coal producers (as

[17] The overburden ratio expresses the amount of overburden (cubic yards) which must be removed to uncover a ton of coal.

designated by the Government) in Illinois, Indiana and western Kentucky and the mines of the approximately 26 other coal producers. The latter are typically located in the West Kentucky or Southern Illinois Freight Rate Districts; have extremely limited coal reserves; produce small annual tonnages; operate only under very favorable strip mining conditions or are shallow deep mines; do not have substantial processing facilities; have limited transportation facilities; and usually sell through agents or dealers rather than directly to customers. These smaller producers rarely sell under long-term contracts with utilities. They do not and cannot constitute a substantial supply source for the energy requirements of electric utilities. As the testimony of a number of witnesses indicated, small producers are, for all practical purposes, in a "different business." [18]

The increasing predominance of the electrical utilities as purchasers of steam coal, the increase in the designed capacity of new electric generation units, and utilities' insistence on a large, reliable, and low-price source of fuel over the 20 or 30-year life of a generating facility, have led to the emergence and survival of coal producers with large reserves, developing large mines which are devoted to serving a smaller number of customers on long-term con-

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[18] See Beck Deposition, p. 8; see also Steiner Transcript, pp. 2240-41; King Deposition, p. 38; Stiehl Deposition, pp. 18-19; Beck Deposition, p. 39; Camicia Transcript, pp. 1444-45; Davis Transcript, pp. 694-95, 764; Steel Transcript, pp. 938-39; Wood Transcript, pp. 659-60; Tomey Transcript, pp. 333-38; Schotters Deposition, pp. 11-12; Nicosia Deposition, pp. 37-38.

tracts. The progressive disappearance of the small coal producers reflects the disappearance of the railroad market and the decline of the space heating market, the retail market and spot coal purchases by utilities.

Not only is this litigation devoid of any signs of anticompetitive performance and behavior in the coal industry, but rather the past performance of the industry suggests there has been intense competition among coal producers. The intense competition which midwest coal producers face is likely to increase even more in light of competition from nuclear energy and other alternative fuels, growing concern with air pollution, pressures from large, informed and capable buyers of coal, and the presence of a substantial number of viable coal competitors. From all of the evidence presented at trial, it appears that coal producers will be under continuing pressure to reduce costs and keep prices low if they are to continue to serve their last remaining large market for steam coal.

The Principal Market for Coal: The Utility Industry

Since 1946, a constantly increasing percentage of total coal production has gone to electric utilities as railroad, retail, and industrial markets have been lost to other fuels. See Defendants' Exhibit 85, Table I; Defendants' Exhibit 216. This trend was true in the midwest and will undoubtedly continue, according to the evidence presented by at least two knowledgable witnesses.[19] Thus, while some 70 per cent of

[19] Gallagher Deposition Exhibits 1-3; Steiner Deposition Exhibit 2, paragraph 2.

United Electric's 1967 sales were to electric utilities, by January 1, 1969, more than 82 per cent of United Electric's mineable reserves had been sold to electric utilities under long-term contracts. In 1967, approximately 75 per cent of the coal production in Illinois, Indiana and western Kentucky was shipped to electric utility generating stations. In each of the years 1965 through 1967, the largest coal customers in Illinois were steam electric utilities. It is undisputed that in 1967, 72 per cent and 89 per cent of the coal produced, respectively, in the Fulton-Peoria and Belleville Freight Rate Districts, where all of the mines of United Electric are located, was sold to electric utilities. 95 per cent and 71 per cent of the coal produced, respectively, in the Springfield and Southern Illinois Freight Rate Districts, where all of the mines of Freeman are located, was sold to electric utilities.

The evidence demonstrates that in considering whether a particular coal mine can compete for the business of an existing power plant, several factors must be weighed. These include the cost of coal at the mine, the location of the mine relative to the consumer's plant, transportation costs, the BTU content of the coal and the suitability of the physical and chemical properties of the coal produced by a given mine for the particular plant facility involved. In the case of a new utility plant, coal supply arrangements are almost always made prior to plant construction, since the facility's coal burning equipment will be specially designed to handle the type of coal

that is to be made available. Arrangements for transportation of the coal are also likely to be made in advance. As a result, the location and design of a plant are frequently determined by the coal supply arrangements that can be made.

Because of (1) the need to assure a supply of coal that satisfies the physical and chemical requirements of the equipment designed, (2) the complexities of administering multiple coal contracts, and (3) the development of large-scale transportation arrangements with their attendent economies, coal supply for large power plants is likely to be developed with relatively few producers. Indeed, many plants are supplied by only a single producer from a single mine opened specifically to serve that single facility. Such supply arrangements also exist in the case of mine-mouth generating plants where the adjacent mining property is expected to meet the lifetime requirements of the plant. In arranging for its coal supply, a utility will not only seek the lowest possible price per BTU of delivered coal, it will also seek assurance of the coal supplier's capability of providing the required quantities of coal over a long period of time. Utilities are therefore concerned about the reliability of the coal supplier and his past record of performance in satisfying contractual commitments. As one of the consumer witnesses emphasized, when a utility is arranging for the fuel supply for a modern generating station representing an investment of several hundred million dollars, it wants "to know that

the people you sign a contract with are able to produce on their end of it." [20]

The testimony also indicates that a utility consumer will weigh heavily its previous experience with potential suppliers and will carefully investigate the availability of adequate coal reserves within the supplier's control to satisfy the contractual commitments. The utility will seek independent geological verification of the existence and size of the coal reserve and the physical and chemical properties of the coal, as well as the producer's technological capabilities.[21] Since 1947, the average size of steam-electric generating plants, and units within those plants, has increased enormously. By 1966, the average size of new units being installed was almost as large as the combined total size of *all units* at existing plants. Defendants' Exhibit 86, Table following p. 9. The increasing size of electric power generating units and plants has been accompanied by an increase in the quantity of coal required at such facilities. A large, modern coal-fired generating unit of a thousand megawatt capacity would require, over its 30-year life, a total of 70 million tons, or approximately 2½ million tons of coal annually. A plant containing three such units (a size shown by the evidence likely to become commonplace) would,

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[20] Tomey Transcript, pp. 336, 338; Gamble Transcript, p. 1263.

[21] See, *e.g.*, Defendants' Exhibit 86, p. 4; Hill Transcript, p. 1113; Gamble Transcript, p. 1263; Wood Transcript, pp. 678-79; Steele Transcript, pp. 996-997.

therefore, require committed mineable reserves of well over 200 million tons.

A 1000 megawatt plant may cost as much as 150 to 200 million dollars. This major investment can be jeopardized by a disruption in the supply of coal. Utilities are, therefore, concerned with assuring the supply of coal to such a plant over its life. In addition, utilities desire to establish in advance, as closely as possible, what fuel costs will be for the life of the plant. For these reasons, utilities typically arrange long-term contracts for all or at least a major portion of the total fuel requirements for the life of the plant. Illustratively, of the 74 million tons of coal purchased in 1967 by midwest utilities (other than municipal utilities) from mines in Illinois, Indiana and western Kentucky, *it is undisputed that approximately 76 per cent was purchased under contracts of five years or longer and 43 per cent was purchased under contracts of 15 years or longer duration.*

The long-term contractual commitments are not only required from the consumer's standpoint, but are also necessary from the viewpoint of the coal supplier.[22] Such commitments may require the development of new mining capacity. As a rule of thumb, a mine capable of producing a million tons of coal annually required, in 1969, an investment of between six to ten million dollars. Coal producers have been reluctant to invest in new mining capacity

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[22] *Cf., Tampa Electric Co.* v. *Nashville Coal Co.*, 365 U.S. 320 (1961).

in the absence of long-term contractual commitments for the major portion of the mine's capacity. Furthermore, such long-term contractual commitments are often required before financing for the development of new capacity can be obtained by the producer.

This trend toward long-term contractual commitments to meet the total requirements of a particular electric power generating plant has tended to eliminate the spot market for coal. From time to time, a utility consumer may purchase small quantities of coal on the spot market and long-term contracts are often written to permit some flexibility in this regard. However, because utilities are increasingly arranging for bulk transportation of coal supply on a long-term basis, the opportunities for spot purchases are declining except in those cases in which small mines may be located in such proximity to make them capable of providing some relatively small deliveries at low cost. Moreover, the rail rate cost advantages of trainload deliveries compared to carload deliveries are such as to limit the desirability of such spot purchases. The growing practice by coal producers of expanding mine capacity only to meet long-term contractual commitments, and the gradual disappearance of the small truck mines has tended to limit the production capacity available for spot sales.

Competition for Utility Contracts

Because of the trend toward long-term contracts and away from spot purchasing, competition in the

electric utility market is not continuous in the sense that coal producers seek new orders from a given facility on a daily, monthly or even annual basis. Rather, competition tends to be a "one time thing." Once the initial coal contract is executed, competition to satisfy the coal requirements of a particular plant is effectively precluded for an extended period of time amounting to as much as 15 years or even the full life of the plant. This competition for long-term supply contracts, rather than competition for the sale of coal already produced, is of a kind in which a small producer or a producer without large reserves cannot effectively participate. This has led to the disappearance of small producers as active competitors in the utility market. Furthermore, the innovations in the coal industry that have made coal prices competitive with other forms of energy have created the need for large scale production and, thus, for large companies. Experts for both the Government and the defendants agreed that under these circumstances, increase in the size of coal mining companies and the concentration of more production in fewer mines, as well as more output of a given mine devoted to a particular source, have been economically inevitable.[23]

Correspondingly, mergers within the *utility industry* have both diminished the number of utility companies and increased the purchasing power of those surviving. Since 1955, there have been more than 50 mergers among midwestern public utilities. In

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[23] Steiner Deposition, p. 176; Folsom Transcript, p. 2581.

1967, the four largest utility companies in the midwest, ranked by coal consumption, accounted for 53 per cent of the coal consumed by electric utilities in the states of Illinois, Indiana, Wisconsin, Iowa, Minnesota, Missouri, Kentucky, and Tennessee. Commonwealth Edison alone consumed approximately 33 per cent of the total coal production of the Freight Rate Districts in which Freeman and United Electric mines are located.

Fuel expenditures are a major component of a utility's operating costs.[24] In light of this, electric utilities typically regard fuel purchasing as a major executive responsibility and these buyers are characteristically sophisticated about the available alternatives. This circumstance provides another source of pressure on coal producers to seek to minimize costs and to keep coal prices low. George Gamble, a director of Union Electric Company, testified that coal contracts would characteristically be reviewed by that company's Executive Committee, as well as its Board of Directors. Gamble Transcript, p. 1264. Similarly, Elmer Hill, formerly of TVA, testified to the care taken in evaluating coal bids:

> "* * * [W]e had a staff of engineers. Each time we evaluated offers for supply to any of TVA's facilities, the reserves were checked, the equipment to be employed in supplying the coal was evaluated. With the engineering knowledge

[24] For example, in 1969, almost 50 per cent of Commonwealth Edison's operating expenses, excluding depreciation, were accounted for by fuel and power purchases. Defendants' Exhibit 90, p. 4.

and know-how as to mining, it could be reasonably determined what the cost for production would be." Hill Transcript, p. 1113.

The evidence further indicates that utilities possess and exercise the power to play coal producers against one another. As the president of one utility stated: "[W]e attempt to use whatever leverage we can to get the prices we can." Davis Transcript, p. 745. He explained that his company at the outset attempts to get a low-cost contract with one coal supplier, and then tries "to use that leverage on the other suppliers to obtain substantially the same price." Davis Transcript, p. 759. Finally, interfuel substitutability provides an additional bargaining advantage to utilities.

The bargaining power of utilities will increase even more in the years ahead, as midwest utilities pool their purchasing power by joining together to coordinate the planning, construction and utilization of generating and transmission facilities. See Defendants' Exhibits 232, 233; Defendants' Exhibit 257, Section IV and Appendices A, B, and C. As a result, and because they purchased coal in huge quantities, utilities have substantial market power as compared with coal producers. George Gamble described this power as follows:

> "Anytime that you are in a position to sign up over a period of 15 or 20 years for a block of business between $50 and $100 million, you've got power in the market, and [if] the coal producers can get hold of a large contract, which would run over a number of years, why, they

know what they can do, they know what they can afford to do in the shape of opening mines and buying machinery, and it's a very important thing to them.

"Consequently, there is a great economic power in the hands of the coal purchaser." Gamble Transcript, pp. 1264-1265.

Recognizing the validity of this analysis, the Government has conceded that utilities have at least equal bargaining power with coal producers in the midwest.

III. INTERFUEL COMPETITION

Energy resources consumed in the midwest include, among others, coal, natural gas, oil, nuclear energy and hydropower. Coal, gas, oil and nuclear energy produce heat, measured in terms of BTU's. Heat thus produced by any one of these energy resources can be used for various purposes, including the generation of electricity. Hydropower is also used to generate electricity. Coal, oil and gas are used to produce space and processing heat.

Coal, oil, gas and nuclear energy compete with one another in the utility, space heating and process heat markets.[28] Electricity (including that generated by hydropower and pumped storage) in turn competes with coal, oil, gas and nuclear energy for parts of these same markets. Coal's share of the energy market reached its peak in 1910. Since then, coal's position has been eroded in one market after another.

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[28] Process heat is that used in the manufacture of chemicals, drugs, foods, glass, metals, cement and the like.

The railroads, once coal's mainstay, have been completely lost to oil through dieselization. The use of coal for space heating has already suffered a dramatic decline and is expected to disappear completely within five to ten years at the most.

Interfuel competition will continue to erode coal's share of the energy market as more and more industrial consumers convert from coal to gas or oil, and as these fuels, along with nuclear energy and the emerging technology of still other alternative power generation sources, further challenge coal's share of the fuel needs of electric utilities. Competition among fuels is a complex of economic, technological and political forces, and results from the ability and willingness of energy consumers, in light of these forces, to shift from one fuel or supplier to another. As a recent report of the Federal Trade Commission points out in a chapter to which the Government's rebuttal economist contributed,

> "• • • There is a high elasticity of substitution among coal, fuel, oil and natural gas as raw materials from which energy is produced. This is particularly marked in the case of electric utilities which have constructed generating stations so they can ultimately consume any of the three principal fuels." Folsom Transcript, p. 2494.

In determining the type of fuel to be used, a consumer reviews and evaluates a number of factors. Thus, the choice between competing fuels depends not only on delivered price, but on such matters as relative

thermal efficiencies and differences in capital costs of burning equipment as well. The costs of storing, handling, and in some instances, disposing of the fuel by-products or residue, for example, are economic factors which can make a low-cost fuel the most expensive fuel. These costs become a particularly important consideration in selecting a proper fuel in locations where land costs are high and in heavily congested areas. In some areas, operating considerations, such as air pollution control regulations, may require a premium priced fuel and foreclose consideration of others.

Energy consumers themselves testified at trial concerning the vigorous competition coal encounters from other fuels in the market place. As the representative of one midwest utility attested,

> "Certainly competition between coal suppliers is a big factor [in controlling the cost of coal], but I believe overriding this, which sets the overall competitive picture, is the alternate fuel competition. There is competition among all fuels as well as among coal suppliers." Wood Transcript, p. 661.

Coal producers, as well, confirmed the intense competition they face from suppliers of alternate fuels. See, *e.g.*, Beck Deposition, p. 8; King Deposition, p. 17; Stiehl Deposition, pp. 14-16.

Competition from Gas and Oil

The extensive competition which coal faces from gas and oil may be seen in the response of midwest

coal consumers to the questionnaire forwarded them under subpoena issued by this court. While the survey was directed solely to coal consumers, and thus takes no account of facilities consuming *only* other fuels, it reveals that, even among those midwest facilities (both utility and nonutility) which consume substantial amounts of coal, some 48 per cent have already installed the capability of consuming either gas or oil as well. Defendants' Exhibit 59, Table C. The subpoena questionnaire responses also demonstrate widespread actual usage of gas and oil as alternative fuels by these utility and nonutility facilities. Thus, nearly half of those facilities with an oil capability actually used oil during 1967, while of those facilities with a gas capability, 80 per cent actually consumed gas for six months of the year or more. Defendants' Exhibit 59, Tables C, D, E. Whether or not facilities actually consume gas or oil, however, their dual or triple fuel capability is a device used by them to play one energy source against another in keeping their fuel costs at a minimum.

Industrial Consumers

Coal has already lost its once dominant position with midwest industrial energy consumers. It has been estimated that 45 per cent of all such facilities in the midwest have already turned to gas, while another 20 per cent have switched to oil. Walker Deposition, pp. 11-12; Peterson Deposition, p. 10. The trend of industrial consumers away from coal is a continuing one. A recent fuel-use inquiry by the

Chicago Department of Environmental Control, for example, revealed that, of the nine responding manufacturing plants located within the City of Chicago which had earlier indicated in response to the court-ordered subpoena questionnaire that they were burning high sulphur coal, six have converted or will convert to the use of gas and oil exclusively. Of the remaining three manufacturing plants, one indicated that it would be burning two-thirds more gas and oil and one-third less coal than in 1967, while the other two were switching from the use of high sulphur coal produced in Illinois to low sulphur coal from other areas. Defendants' Exhibit 239.

The evidence also demonstrates that many other mid-western industrial and institutional consumers are converting from coal to other fuels. The facilities of American Distilling, Corn Products and Standard Brands in Pekin, Illinois; Hiram Walker and Keystone Steel in Peoria, Illinois; American Can in Green Bay, Wisconsin; Northwestern States Cement in Mason City, Iowa; McDonnell-Douglas and Proctor & Gamble in St. Louis, Missouri; American Maize in Roby, Indiana; the University of Chicago, the Metropolitan Sanitary District of Chicago, the City of Belleville, Belleville School District and St. Clair County, as well as the Government's own midwest facilities, for example, were all shown at trial to have recently discontinued the use of coal. Even the courthouse in which this litigation was tried was shown to have been converted recently from coal to a combination of gas and oil. The evidence revealed, more-

over, that the Government considers a careful economic appraisal of the relative merits of gas, oil, coal and other alternative fuels so important and common in its fuel purchasing decisions that the General Services Administration has prepared a standard form, "GSA Form 1289, Heating Fuel Economic Analysis," to assist in the process.

Utility Consumers

Oil and gas are also important competitors for the fuel requirements of midwest utilities. In some midwest states, for example, oil and gas already supply 50 per cent of the energy requirements of electrical utilities.[**] As a report to the Federal Power Commission by a group of midwest utility executives points out,

> Although coal is available in sufficient quantities in the West Central Region to supply the entire energy requirements of the electric utilities in this region, competition will determine the extent to which coal will penetrate each market." Defendants' Exhibit 257, p. II-9.

While the subpoena questionnaire was addressed only to the coal-fired facilities of midwest utilities, it revealed that, even with respect to these, 55 per cent were capable of burning gas and/or oil as al-

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[**] Significantly, the only utility executive called to testify by the Government, Daric N. Miller, Manager of Electric Production, Kansas Power and Light Company, was from an area where 91 per cent of the fuel requirements of utilities are supplied by gas, eight per cent by oil and one per cent by coal. Miller Transcript, p. 1723; Defendants' Exhibit 138, p. 20.

ternatives to coal. Furthermore, 79 per cent of the utility facilities equipped to consume gas actually did so for six months or more during 1967. Installation of multi-fuel capability is not confined to small generating plants. This may be seen from the fact that the facilities with multi-fuel capability consumed close to 50 per cent of the coal shipped to large utility systems in the midwest.

Because of the growing concern with air pollution, oil and gas are rapidly increasing their share of the fuel business of midwest utilities. This includes even those utilities in close proximity to coal fields which have relied principally on coal to provide their generation in the past. Illinois' largest coal consumer, Commonwealth Edison, which 10 years ago had 58 coal-fired boilers in Chicago, today has less than a dozen.

Also leading to increased usage of gas and oil by midwest utilities is the fact that many utilities are increasing their capacity through installation of gas and oil peaking units. The capacity which these peaking stations represent has increased substantially in recent years. For example, the most recently announced gas turbine peaking station of Northern States Power Company has a capacity of 300,000 kilowatts. This exceeds the average size of the coal-fired base-load units being installed only five years ago. Such peaking units represent a significant portion of the new capacity being installed by utilities in the midwest."[27] Thus, the combined capacity of

[27] See Defendants' Exhibit 138, Table 6, pp. 73-86; Defendants' Exhibit 234, p. 4.

Northern States Power Company's gas and oil peaking stations (500,000 kilowatts) was shown to be equivalent to a coal-fired station consuming approximately one million tons of coal annually.

In the utility market, coal is also faced with a secondary level of competition from alternate fuels. The growth in demand for electricity which has occurred in recent years is not due to increased demand for illumination, where electricity is faced with virtually no competition. Rather, it is due to expansion of the use of electricity for home heating, air conditioning and appliances. These are areas where the electricity which coal generates encounters severe competition from oil and gas. Competition at the secondary level has become particularly intense in recent years with the development of the "total energy" concept where gas and oil are used not only to provide energy for heating, air conditioning and appliances, but for on-site generation of electricity as well.

Competition from Nuclear Energy

During the 1960's, the use of nuclear energy to generate electricity became a commercial reality, increasing still further the competition faced by coal. Thus, as of January, 1970, there were 16 nuclear plants in operation, 48 more under construction, and an additional 41 had been announced. Defendants' Exhibit 108. Midwest utilities have assumed a position of leadership in the development of nuclear-powered generating stations. Commonwealth Edison

was a pioneer in the field, and in 1960, opened the first privately financed nuclear generating station in the country. At the time of trial, Edison and TVA, the midwest's two largest coal consumers, accounted for approximately 20 per cent of the nation's private nuclear capacity on order, under construction or in service. TVA already has five nuclear units under construction which, when completed will represent approximately 25 per cent of its total generating capacity. At the close of 1970, Commonwealth Edison will have three nuclear units in operation. By 1973, the number will have more than doubled and some 40 per cent of its electric generating capacity will be nuclear. Beyond that, Edison already has plans for two more nuclear units in 1976 or 1977. Commonwealth Edison's spokesman at trial summed up the situation as follows:

> "Well, as far as Commonwealth Edison is concerned, we have sort of put our eggs in the nuclear basket. We believe that nuclear power is the best way to provide base load electric generation, and we intend to move in this direction." Corey Transcript, p. 1600.

Other utilities throughout the midwest are also committing themselves to nuclear energy. Northern States Power Company's first nuclear station became operational in 1971 and will be joined by two others in 1972 and 1974. Three Wisconsin utilities, Wisconsin Public Service Company, Wisconsin Power and Light Company, and Madison Gas and Electric Company have joined together to construct a large nu-

clear station which is scheduled to begin operations by 1972. Northern Indiana Public Service Company, Iowa Electric Light and Power Company, and Wisconsin Electric Power Company have also undertaken substantial commitments to nuclear energy. Dairyland Cooperative Company operates a small nuclear demonstration plant and plans to join with four other rural cooperatives in the construction of an additional nuclear station. Even those midwest utilities which do not presently employ nuclear energy emphasized at trial their continuing interest in, and financial support of, nuclear research and development, and the possibility that they might undertake nuclear commitments in the future. They stressed that even now they closely compare and evaluate the overall costs of nuclear and fossil fuel stations in all cases before making a decision as to which type of new generating capacity to install.

Even apart from environmental considerations, nuclear energy in the 1960's rapidly developed to the point where it was cost competitive with coal. In 1968, when TVA was planning a 3,300,000 kilowatt increase in its capacity, it carefully compared and evaluated both coal and nuclear fueled facilities and concluded that installation of a nuclear station would be more *economically* desirable.

The Atomic Energy Commission has considered nuclear energy to be a competitor of coal for the fuel requirements of electrical utilities, even those located in coal mining areas, since approximately 1965. The director of the Division of Industrial Participa-

tion of that commission testified at trial that fuel costs for a nuclear plant are "considerably cheaper than a fossil plant, and although the capital cost is higher, when you balance the total cost, this is why the utilities have gone to nuclear, because the total operating cost will tend to be lower in many cases due to the cheaper fuel cost." Tremmel Tr., p. 799. The Atomic Energy Commission estimated that by 1980, between 20 and 25 per cent of the nation's total generating capacity will be nuclear. Moreover, since these nuclear stations will be base-load facilities, i.e., operated continually, which are more fully utilized than older fossil units, the AEC has also predicted that between 30 and 35 per cent of the electricity actually generated in 1980 will be nuclear fueled.

The impact of increased installation of nuclear generating stations on the coal industry will be particularly severe in the midwest, where utility executives have reported to the Federal Power Commission that by 1990 nuclear facilities are anticipated to comprise 57 per cent of total capacity, with nuclear generation "expected to supply nearly 70 per cent of the region's energy requirements by that time." Defendants' Exhibit 257, p. S-5.

During the 1980's, when the so-called nuclear breeder reactor is expected to come into commercial use, two witnesses testified that coal's portion of the utilities' fuel business is likely to decrease further, with the possibility that it may ultimately be eliminated altogether.[28] The most significant advantage

[28] See Tremmel Tr., pp. 806-08; Netschert Dep., p. 38.

of the breeder reactor over present nuclear facilities is that the breeder reactor will actually make more fuel (which can be used or sold) than it consumes, thereby resulting in a negative fuel cost.

While there are substantial economies of scale in the construction and operation of nuclear facilities, this does not preclude the use of nuclear energy by the small utilities in the midwest. On the contrary, the evidence indicates that several smaller utilities have already undertaken the joint construction of large scale nuclear facilities.[29] Some midwest utilities have joined together in power pools such as MCPP (Mid-Continent Power Planners) (and MAIN (Mid-American Interpool Network) so that such joint nuclear projects can be more readily undertaken and efficiently coordinated in the future. Furthermore, the evidence also shows that companies with developed expertise and operating experience with nuclear energy, such as Commonwealth Edison, are available to lend technical assistance, and possibly supplies, to those undertaking nuclear commitments for the first time. Government's Exhibit 135. Moreover, the Atomic Energy Commission's witness also testified that quite apart from the utility market, nuclear energy has now developed to the point where its use as an alternative to coal for industrial facilities is already occurring, and can be expected to expand in the future as further technological advancements are made. Tremmel Tr., pp. 812-813.

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[29] See Abrahamson Dep., pp. 19-20, 28; Morrison Dep., pp. 10-11; Moser Tr., pp. 1573-74; Steele Tr., p. 963.

Other Alternative Power Sources

Hydropower has long been a competitor of coal in the midwest. TVA, the midwest's largest coal consumer, originally used hydropower exclusively, and presently operates approximately 40 hydropower stations. Coal's competition in the midwest from this source of energy is expected to increase in the future in view of the steps being undertaken to integrate the huge hydroelectric potential in Canada with power developments in the midwest through power pooling arrangements.

Pumped storage hydroelectric projects will further increase the competitive pressure on coal. The evidence shows that there is a growing commitment to pumped storage power generation in the midwest. Pumped storage facilities tie in well with nuclear generation, and an Atomic Energy Commission spokesman predicted at trial that, in the long term, electricity could be generated at the lowest cost by a combination of nuclear energy, pumped storage, and gas peaking. Tremmel Tr., p. 810.

Another alternative to coal expected to add to interfuel competition in the future is the generation of electricity by geothermal steam. In this method of generation, underground steam is tapped directly to provide power to drive turbine generators. While the evidence discloses that installation of such facilities has thus far been confined to the west coast, some scientists estimate that by 1980 geothermal energy could be generating as much as 10 per cent of the total electrical output of the country. Defendants'

Exhibits 178, 179. More immediately, one witness testified that increasing geothermal capacity on the west coast will free gas, presently required there for the generation of electricity, for use in the midwest. Walker Dep., p. 23.

Multi-Energy Companies

An additional aspect of the competition coal faces from other fuels is the fact that coal producers such as United Electric frequently find themselves competing with much larger corporate enterprises which produce and sell a variety of energy sources and can thus fill all of a utility's fuel needs, regardless of kind. In the past six years, the oil industry has established itself as a major element in coal production, linking under common ownership, in many instances, the energy resources of coal, oil, gas, uranium, oil shale and tar sands. Four midwestern coal producers are owned by oil companies: Pittsburg and Midway Coal Co. (Gulf Oil), Consolidation Coal Co. (Continental Oil Co.), Island Creek Coal Co. (Occidental Petroleum Corp.) and Old Ben Coal Co. (Standard Oil of Ohio). In 1967, these companies accounted for more than 25 per cent of the coal produced in Illinois, Indiana and western Kentucky. Defendants' Exhibit 85, Table XXVIII; Government's Exhibit 85.

A fifth midwestern coal producer, Ayrshire Collieries Corp., had announced plans in early 1969 to merge with Ashland Oil & Refining Co. The merger discussions were terminated, however, and Ayrshire subsequently combined with American Metal Climax,

Inc., a major producer, fabricator and marketer of metals and minerals.

Humble Oil, the principal operating subsidiary of Standard Oil (New Jersey) is constructing a deep mine in Illinois capable of producing 3 million tons per year for 20 to 30 years. Humble has entered into a long-term contract to sell the mine's output to Commonwealth Edison. Humble controls deep coal reserves in the midwest estimated at 3 billion tons. In addition to its sale of oil, natural gas and coal, Humble also has extensive holdings of uranium.

Air Pollution Restrictions Intensify the Competition Coal Faces from Other Fuels

Without question, air pollution has become one of the nation's most difficult and urgent problems. The burning of coal results in the emission of particulate matter and sulphur oxides. These substances were the first two emissions designated as pollutants by the National Air Pollution Control Administration. Beginning in 1955, the United States Department of Health, Education and Welfare undertook a study of the effect of sulphur oxide and particulate emissions on health. That study led the Department to conclude that these pollutants represented a serious health hazard when they exceeded certain levels in the atmosphere. The Department subsequently published the results of its studies, stressing particularly what it believed to be the minimum air quality standards for safety with respect to these pollutants. Defendants' Exhibit 89, pp. 1-3.

As a result of widespread concern over the deleterious effects of these pollutants, tremendous public pressure developed for the enactment of pollution control legislation and regulations to curtail their emission into the atmosphere. Even before such restrictions became effective in many areas, demands were made by groups pressuring utilities to reduce their consumption of high-sulphur coal by substituting low-sulphur fuels.

While attention was focused at the outset on establishment of air pollution restrictions in major metropolitan areas, smaller communities have also begun to adopt air pollution regulations, and statewide regulation, where not already established, is anticipated. Concerning this trend, S. Smith Griswold, the defendant's expert witness on air pollution, testified as follows:

> "I believe that you are going to have statewide regulations similar to those in New Jersey, generally. If you don't have a state-wide regulation, you are going to have industries moving out into rural areas, the less urbanized areas, and subsequent dislocation of your industrial developments. I feel that this probably won't be acceptable from the standpoint of the area that is losing . . . . industry because of the severity of [air pollution] controls, plus the fact that you will see a wide range of local regulations . . . designed to keep areas, which are now clean, from being polluted." Griswold Dep., p. 240.[10]

[10] Mr. Griswold was formerly Assistant Director of the National Air Pollution Control Administration of the U.S. De-

In light of this regulatory trend, electric utilities and other large coal consumers will not be able to avoid air pollution restrictions by locating future facilities in rural areas. Indeed, much of the demand for state-wide controls is from residents of rural areas who do not wish to see their present relatively pollution-free environment deteriorate.

Abatement Techniques and Their Effect on Coal

The air pollution restrictions adopted throughout the midwest are substantially increasing the already intense competition which coal faces from other fuels. Only coal-burning leads to particulate emission. Similarly, while coal is the principal source of sulphur oxide pollution, gas and oil burning result in only negligible sulphur oxide emissions, and nuclear energy, of course, leads to none.

While electrostatic precipitators have been developed which are effective in controlling the particulate portion of the pollution emitted during the burning of coal, many consumers have found it more economical to convert to alternate fuels, or even to close down older facilities, rather than to install such devices in order to continue burning coal. This is because electrostatic precipitators are extremely high cost items of capital equipment. *The installation of such equipment can cost 2 million dollars or more at a single facility.* Because of this high cost, electrostatic precipitators are not practical for small coal-

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partment of Health, Education and Welfare, and for eleven years he was the Air Pollution Control Officer of the Los Angeles County Air Pollution Control District.

burning facilities. This fact has been recognized by the National Air Pollution Control Administration.[21]

Even for utilities, however, the cost of electrostatic precipitator equipment often represents such a high investment that it is more economical to convert from coal to the use of oil or gas. At the 359,000 kilowatt R. S. Wallace Station of Central Illinois Light Company, for example, six of the 10 boilers were converted to gas because, as the president of the company testified at trial: "We cannot put electrostatic precipitators on these boilers economically." Davis Tr., pp. 690-91. Similarly, the president of Interstate Power Company testified that his utility expected to discontinue the burning of coal at its Fox Lake Station altogether. He explains that rather than put in a $1,400,000 electronic or electrostatic precipitator, "we will probably change over to burning oil." Steele Tr., pp. 935-36; see also Tomey Tr. p. 400-01.

Sulphur Oxide Control Devices

While equipment is at least available for reducing particulate emissions, the technology for controlling sulphur oxides, the other principal pollutant emitted during the combustion of coal, is still under development. The significance of air pollution restrictions on interfuel competition and the marketing of coal is underscored by the fact that three of the Government's five rebuttal witnesses were called to testify regarding sulphur oxide pollution control devices.

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[21] Middleton Dep. Ex. 4, p. 3-19; see also Defendants' Ex. 160.

The most that two of these witnesses would say, however, was that they believed their respective companies would be able to develop commercially acceptable sulphur removal devices within five years. Craig Tr., p. 2068; Quig Tr., p. 2201. Both witnesses conceded that such devices would be quite costly, and that not a single utility had been persuaded to install one. One of these witnesses admitted that utilities "may very well turn towards the use of substitute fuels." Quig. Tr., pp. 2191, 2198.[22]

Daric N. Miller, an executive of Kansas Power and Light Company, testified with respect to his company's decision to place the nation's first order for a sulphur pollution control device designed by Combustion Engineering Company. Although he admitted that his company had encountered problems from the day it started up a smaller demonstration model of the device, Mr. Miller expressed the belief that the equipment would be reliable. Significantly, he stressed that his company's facility would not be operating on coal produced in Illinois, Indiana or western Kentucky.

This Combustion Engineering device has been tested on coal produced locally, however, by Union Electric Company at its Meramec Station near St. Louis. An executive from that company testified that the device was "not commercially operable" and was, in

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[22] The Government has not seen fit to order any such devices in connection with the air pollution reduction program at its own facilities. Instead, it has converted to lower sulphur fuels. Griswold Dep. pp. 221-26; Griswold Dep. Exhibits 3, 4.

fact, "shut down for more design changes" when he left St. Louis to appear at trial. Tomey Tr., pp. 358, 400. The device was, in fact, operable for only one of the first nine months following its installation. Griswold Dep. 87. As Mr. Griswold summed up the situation:

> "They have corrosion problems, they have every kind of problem. They have got so many problems they didn't think about, that they haven't gotten around, in some cases, to figuring out what the answers are to things they planned to determine in this study." Griswold Dep. 87-88.

Recognizing the magnitude of the problems encountered with the Combustion Engineering system to date, other midwest utilities have rejected it. Combustion Engineering's representatives have publicly stated that "the system cannot be considered commercially acceptable at this time," and a Federal panel of air pollution technology experts has concluded that even the system's presently known problems "may require several years of additional study." Nicosin Dep. 49-50; Schotters Dep. 15; Griswold Dep. Ex. 5. A spokesman from Union Electric stated: "It's strictly an experimental unit." Tomey Tr. p. 400.

The evidence also shows that recently the National Air Pollution Control Administration of the United States Department of Health, Education and Welfare, commissioned a panel of technical experts to review the status of United States and foreign sulphur oxide

abatement and control processes in order to provide a basis for increased governmental and public understanding of the problems involved in these areas. On the basis of its independent evaluation of oral and written presentations by 46 companies, including the three from whom representatives were called by the Government at trial, the panel

> "firmly concluded that, *contrary to widely held belief, commercially proven technology for control of sulfur oxides from combustion processes does not exist.*" Defendants' Exhibit 254, p. 3 (emphasis in original).

It is impossible to predict precisely when effective sulphur oxide pollution control devices will become commercially available. While witnesses expressed the hope that it would be soon, it may be 10 years or more before such processes are refined to the point where they are generally available for installation on, or planning for, power plants burning coal. Griswold Dep. 54-55. Although there is a great deal of research taking place with respect to sulphur oxide pollution control technology, it is important to recognize that as long as 20 years may be required to go from paper studies through laboratory experiments, pilot plants, prototype plants, and commercial demonstration to commercial application. As the recent study of the National Air Pollution Control Administration emphasized,

> [e]fforts to force the broad-scale installation of unproven processes would be unwise; the operating risks are too great to justify such action, and there is a real danger that such efforts

would, in the end, delay effective SO_2 emission control." Defendants' Exhibit 254, p. 3.

Instead, the study urged a high level of government support for several years to encourage research, engineering, development, and demonstration of a variety of the more promising processes, as may be suited to specific local and regional conditions.

In any event, there will be a long delay between the time sulphur oxide control devices become commercially proven and their actual implementation. Five years or more of advance planning are required in the construction of a modern utility generating station. Government counsel asked one utility executive whether, for a new plant being designed to burn low-sulphur coal from Montana or Wyoming, his company would consider using high-sulphur coal produced locally if an effective sulphur oxide control system were developed. He explained the problem:

> "Well, here we have a timing problem because you have to start designing boilers well in advance of the unit. For a 1976 unit, we will have to start next year in making some final design decisions, and so we will not have the time to wait until we are assured that an So_2 [sulphur dioxide] removal system would be available." Wood Tr. p. 622.

Adding to the competition problems faced by coal because of growing air pollution concern and regulation, is the fact that the control of particulate pollution and sulphur oxide pollution are negatively interrelated. In present particulate control technology, sulphur oxides are needed for ionization of the flue

gases, so that equipment which reduces the sulphur oxide reduces the effectiveness of the particulate control equipment. Moser Tr. p. 1530; Wood Tr. pp. 665-66; Corey Tr. p. 1686; Defendants' Exhibit 254, p. 44. In effect, as one problem is solved, another is created.

Cost projections show that sulphur oxide pollution control equipment will be quite expensive in terms both of initial capital cost and subsequent increased operating expenditures. Such devices will be far more costly than particulate control equipment. In some cases, it was shown that the projected capital cost alone for installation of a single control device will exceed the total current $15 million Federal budget for research on the control of sulphur oxides. Defendants' Exhibit 89, Table 5, p. 43; Griswold Dep. 214-16.

The Adverse Effect of Air Pollution Control Devices on Coal Consumption

The lack of commercially acceptable sulphur oxide control devices, coupled with the increasing adoption of stringent sulphur oxide air pollution restrictions, has led to a switch on the part of many fuel consumers away from coal. As Commonwealth Edison summed up the situation in its annual report: "The best way for us to reduce air pollution is to burn less coal." Defendants' Exhibit 90, centerspread. By 1973, Commonwealth Edison will be burning 50 per cent less coal in Chicago than it did in 1967, and by 1975, Edison's coal-burn will be cut in half again.

Defendants' Exhibit 98. During 1969, the gas burned in Commonwealth Edison's plants in and near Chicago replaced nearly 1,700,000 tons of coal. Currently, an additional 1,400,000 tons are being replaced by oil. Low-sulphur coal from Montana, Wyoming, and Colorado is also being tested as a possible substitute for still more of the high-sulphur coal presently consumed by Edison. Finally, Edison has made a substantial commitment to the use of nuclear energy, particularly in its future generation plans. Gorden Corey, Chairman of Commonwealth Edison's Finance Committee, emphasized at trial that "we believe this is the best way to take care of our massive electric power generation problems with a minimum of disturbance to the environment." Corey Tr. pp. 1600-01.

Like Commonwealth Edison, Northern States Power used its annual report to advise its shareholders of the steps it is taking in the face of growing air pollution concern and regulation. The report notes the conversion, for example, of some of its plants from coal burning to gas and oil fuel, and stresses the company's commitment to nuclear energy:

> "* * * By 1974, 35 per cent of the Company's total generating capability will be in nuclear units that do not produce dust or sulphur dioxide. By 1974, NSP will burn about 4 million less tons of coal annually than would have been required if coal-burning units of comparable generating capacity had been built. This is a coal and sulphur dioxide reduction of 55 per cent." Defendants' Exhibit 149, p. 18.

Other industry witnesses also noted the erosion of coal's competitive position because of the increasing concern over air pollution, and their expectation that the competition that coal faces from other fuels would increase even more in the future. As the president of one midwest utility expressed it: "We have always discussed every alternate fuel and looked at it, and we are doing so more in recent years because of air pollution." Steele Tr. p. 956. Indeed, as another utility executive testified: "Air pollution is getting to be the overriding issue." Tomey Tr. p. 397.

Coal producers also stressed the impact of air pollution regulation on coal consumption. The president of one coal company noted, for example, that immediately after the enactment of an air pollution ordinance in St. Louis, his company lost one of its major customers because the company's coal had a higher sulphur content than permitted under the ordinance. Beck Dep. 9.

The capital and operating costs involved in air pollution controls are important economic factors which utilities will consider in determining what type of fuel to burn and what type of generating stations to construct for their system. Such costs may well lead to the exclusion of coal from the competitive picture for some utilities in favor of other fuels. The impact of air pollution abatement measures on the consumption of various fuels by electric utilities was summed up by Dr. Bruce Netschert, defendants' economic and energy exepert, as follows:

"Well, as I previously indicated, I think that the impact of the sulphur aspect of air polution regulations is to place coal at a competitive disadvantage, and this stated otherwise would mean that there would be a tendency to turn to other fuels as a means of coping with such regulations—gas, oil and nuclear.

"To answer your question specifically, I would say that the net effect would be to tend toward an increase in the consumption of these other fuels at the expense of coal consumption." Netschert Dep. 69.

In light of the commercial unavailability of sulphur oxide pollution control equipment, many of the governmental restrictions adopted to date, particularly the more recent, have taken the form of a limitation on the amount of sulphur in fuel burned rather than a limitation of the amount of sulphur oxide emissions. Defendants' Exhibit 89, Table 2, p. 14; Defendants' Exhibit 89, pp. 13, 23; Griswold Dep. 147. Furthermore, because of the time, expense, and difficulties in measuring emissions, practical enforcement of even the latter standards often takes the form of restricting the sulphur content in fuels burned. Coals whose sulphur content exceeds that proscribed by ordinance or statute cannot, of course, compete for the business of consumers located within the area of regulation. *Because of its high sulphur content, none of United Electric's coal can be sold in Chicago.*

Not only does this intense level of interfuel competition explain a great deal of what has happened

in the coal industry and to its markets, but its recognition is necessary to any valid predictions concerning the coal industry's future. Because interfuel competition particularly provides utilities with a strong bargaining weapon in negotiations with coal producers, this competition exerts strong pressure on the market in which coal producers sell their form of energy. This court is of the opinion that these pressures are crucially relevant to its assessment of the competitive effect of the United Electric-Freeman combination.

IV. THE RELEVANT PRODUCT MARKET

Based upon the extensive evidence presented at trial concerning the coal industry, its consumers and its competitors, this court is of the opinion that the energy market is the appropriate line of commerce for testing the competitive effect of the United Electric-Freeman combination. Midwest coal consumers, many of whom testified at trial, were shown to be typically large utility and industrial corporations sophisticated in the energy market. Their testimony consistently demonstrated that their purchasing decisions with respect to coal were based primarily upon a comparison of competitive forms of energy. In the context of the entire record before this court, the Government's position that coal is a "sub-market" for antitrust purposes is untenable. As succinctly stated in *United States* v. *Bethlehem Steel Corp.*, 168 F.Supp. 576, 592 (S.D.N.Y. 1958):

> "* * * Any definition of a line of commerce which ignores the buyers and focuses on what the sellers do, or theoretically can do, is not meaningful."

In determining the appropriate line of commerce, the Supreme Court has directed that economic and commercial realities must be examined. *United States* v. *Continental Can Co.*, 378 U.S. 441, 449 (1964); *Brown Shoe Co., Inc.* v. *United States*, 370 U.S. 294, 336 (1962). If competition cuts across product or industry lines, the product market must be drawn broadly enough to include competition as it exists. In the *Continental Can* decision, the Supreme Court observed that:

> "It is quite true that glass and metal containers have different characteristics which may disqualify one or the other, at least in their present form, from this or that particular use; that the machinery necessary to pack in glass is different from that employed when cans are used; that a particular user of cans or glass may pack in only one or the other container and does not shift back and forth from day to day as price and other factors might make desirable; and that the competition between metal and glass containers is different from the competition between the can companies themselves or between the products of the different glass companies. These are relevant and important considerations but they are not sufficient to obscure the competitive relationships which this record so compellingly reveals." 378 U.S. at 450. (Emphasis supplied)

The competitive battle waged by various forms of energy, as documented in this litigation, is similar to the demonstrated competition between glass and metal containers in the *Continental Can* decision. Applicable here are the Supreme Court's considerations which compelled the conclusion that an inter-industry line of commerce existed:

> "* * * In our view there is and has been a rather general confrontation between metal and glass containers and competition between them for the same end uses which is insistent, continuous, effective and quantitywise very substantial. Metal has replaced glass and glass has replaced metal as the leading container for some important uses; both are used for other purposes; each is trying to expand its share of the market at the expense of the other; and each is attempting to preempt for itself every use for which its product is physically suitable, even though some such uses have traditionally been regarded as the exclusive domain of the competing industry." *Id.* at 453.

These considerations also compel this court to conclude that since coal competes with gas, oil, uranium and other forms of energy, the relevant line of commerce must encompass interfuel competition.[33]

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[33] In United States v. Aluminum Co. of America, 377 U.S. 271 (1964), and United States v. Philadelphia National Bank, 374 U.S. 321 (1963), decisions heavily relied upon by the Government in this action, the Supreme Court found that the requisite interproduct competition was not supported by the record. Such is not the case here.

V. THE RELEVANT GEOGRAPHICAL MARKET

The defendants have presented extensive evidence showing the distributive patterns of all the coal from the United Electric mines and other mines located in the same Freight Rate Districts. A similar showing has been made with respect to Freeman's mines and the Freight Rate Districts where they are located. The sales markets thus revealed were then analyzed to determine the likely effect of the United Electric-Freeman combination upon each of them.

The Government's proposed geographic markets, Illinois and the Eastern Interior Coal Province, are based essentially on past and present production statistics and do not relate to actual coal consumption patterns. The Government failed to produce evidence to establish the existence of a market for coal within these two proffered geographic areas. The Government's own economist testified that he had "concluded that the State of Illinois was the most appropriate market" without explaining why. Folsom Tr. p. 2469. Moreover on cross examination he could name no other factor that made the political boundaries of the State of Illinois a meaningful measure of the relevant geographic market for coal. Folsom Tr. p. 2501. There is no evidence in this record that any customer of either United Electric or Freeman purchased, or that any producer sold, coal throughout either of the Government's proposed markets. In sharp contrast with the Government's approach, the defendants' proposed markets reflect distribution pat-

terns shown by the evidence as recognized by the coal industry and the Interstate Commerce Commission, as well as by the Supreme Court. Terleke Dep. Ex. 1-11; Weir Dep. Ex. 1; Nugent Dep. Ex. 38; *Ayrshire Collieries Corp.* v. *United States, supra.*

The evidence clearly indicates that transportation costs largely determine those facilities for whose business coal mines are able to compete and those mines to which coal consumers can practicably turn for supplies. As the president of one midwest coal producer testified, "coal sales follow transportation arteries and freight rates." Beck Dep. 7. It is undisputed that the cost of transporting coal may approach 30 per cent to 40 per cent of its delivered price, and is therefore a critical factor influencing the choice of suppliers by coal consumers which can effectively segregate coal producers in one area from those in another. The evidence shows that in maps and statistical compilations used by midwest coal consumers and producers, mines located in Illinois, Indiana and western Kentucky have long been commonly grouped according to the Freight Rate Districts in which they are located. Responses to the subpoena questionnaire sent to midwest coal consumers demonstrated that each Freight Rate District serves a distinct and definable area, as did the testimony of producers and consumers.

The defendants have also identified two unique coal consumers for purposes of market delineation. Commonwealth Edison annually consumes as much coal as the combined production of all the mines in both

the Fulton-Peoria and the Springfield Freight Rate Districts, the two major Freight Rate Districts closest to its generating stations. Because of its substantial coal requirements and the location of its facilities, Commonwealth Edison must purchase coal from several Freight Rate Districts in Illinois. Moreover, in order to minimize its overall transportation costs, Commonwealth Edison has a distribution pattern for the coal which it purchases that is quite distinct from that followed by other consumers. Finally, Commonwealth Edison has the most extensive commitment to the use of nuclear energy for the generation of electricity of any electric utility in the world and has also undertaken an air pollution control program which is substantially increasing its use of nuclear energy, gas and oil.

The defendants also substantiated their contention that the Metropolitan Chicago Interstate Air Quality Control Region constitutes another unique coal market. This region, designated by Congress, consists of McHenry, Kane, Lake, Cook, DuPage and Will counties in Illinois, and Lake and Porter counties in Indiana. The City of Chicago, by far the largest municipality within this region, has already enacted air pollution control regulations which prohibit the burning of fuels with a sulphur content of greater than 2.0 per cent at the present, and 1.0 per cent after August 31, 1972. Chicago Municipal Code, Chapter 17, ¶ 17-2.5(3), as amended.

The Chicago area, because it is a major transportation hub with direct railroad or water arteries to

most of the Freight Rate Districts in the midwest, has been served in the past by producers in most midwest Freight Rate Districts. In no other significant industrial and population center in the midwest does this confluence of coal shipments from multiple Freight Rate Districts occur. Because of existing and anticipated air pollution regulations, however, the evidence discloses that future competition will be limited to those producers of low sulphur coal in the Southern Illinois Freight Rate District and in the Murdock Freight Rate District.

Just as the relevant product market must reflect commercial realities, so also must the geographic market selected for testing the competitive effects of an acquisition or merger " 'correspond to the commercial realities' of the industry" under scrutiny. *Brown Shoe Co.* v. *United States, supra,* at 336. See also *Case-Swayne Co.* v. *Sunkist Growers, Inc.,* 369 F.2d 449, 456 (9th Cir. 1966), *rev'd* on other grounds, 389 U.S. 384 (1967); *United States* v. *Northwest Industries, Inc.,* 301 F.Supp. 1066, 1083-84 (N.D. Ill. 1969); *United States* v. *Tidewater Marine Service, Inc.,* 284 F.Supp. 324, 332 (E.D. La. 1968); *United States* v. *Crocker-Anglo National Bank,* 277 F.Supp. 133, 173 (N.D. Cal. 1967); *United States* v. *Kimberly-Clark Corp.,* 264 F.Supp. 439, 457 (N.D. Cal. 1967). The Government's purely statistical approach to geographic market definition fails to measure market strength or competition as it exists. However, even were this court to accept the Government's commercially unrealistic definition of the rele-

vant geographic market, the Government's failure to show that a substantial lessening of competition resulted from the United Electric-Freeman combination is fatal to this divestiture action. *Cf.*, *United States* v. *Pabst Brewing Co.*, 384 U.S. 546, 549-50 (1966).

VI. THE COMPETITIVE EFFECT OF THE UNITED ELECTRIC-FREEMAN COMBINATION

The record indicates an absolute decline in the number of coal producers in Illinois since 1959, as well as in the three-state area proposed by the Government as the relevant geographic market. However, the evidence clearly discloses that reduction in the number of coal producers has occurred not because small producers have been acquired by others, but as the inevitable result of the change in the nature of demand for coal. *Significantly, the United Electric-Freeman combination accounted for less of the coal produced in Illinois and the three-state area in 1967 than it did in 1959.* Accordingly, this litigation presents a very different situation from that in such cases as *United States* v. *Philadelphia National Bank*, 374 U.S. 321 (1963), and *United States* v. *Von's Grocery Co.*, 384 U.S. 270 (1966), where the Supreme Court was concerned with "preventing even slight increases in concentration." 374 U.S. at 365, n.2. Here, there is no element of "prevention," since the combination is in its second decade without demonstrating any of the indicia of concentration.

Crucial to the Government's case is proof that United Electric and Freeman are actual or potential competitors. By the use of charts, the Government points to certain common customers of United Electric and Freeman to demonstrate the requisite anticompetitive effect of the combination of these two coal producers. However, viewed in the context of all the evidence in this case, this court is of the opinion that an independent United Electric would not and could not compete with Freeman to any substantial degree.

These companies have been and are now predominantly complementary in nature. United Electric is a strip mining company with no experience in deep mining nor likelihood of acquiring it. Freeman is a deep mining company with no experience or expertise in strip mining. According to the undisputed evidence, United Electric and Freeman have made a joint proposal to a group of public utilities for development of coal lands in southern Utah. If accepted, United Electric would mine the strip coal and Freeman the deep coal. As Thomas J. Tarzy, United Electric's Vice President of Western Operations testified:

> "It is logical, and I think it made a good proposal, and I think it was well received that here were two companies, one who had expertise in strip mining and the other who had expertise in deep mining, to go in there and make a proposal to develop this property. I think it had a very beneficial effect, and without something like that,

I don't think we would have gotten much consideration." Tarzy Dep. 425.

Freeman sells metallurgical coal. United Electric does not and cannot. The Government concedes that United Electric could not compete with Freeman's sales of metallurgical coal. Freeman sells a by-product known as dust. United Electric does not and cannot.

Excluding Commonwealth Edison, none of the sales by United Electric in the period 1965 to 1967, the years chosen by the Government for analysis, would have or could have been competitive with Freeman, had the two companies been independent. The mines and coal reserves of United Electric are, and have been since prior to 1959, located in different Freight Rate Districts than the mines and coal reserves of Freeman. The Freight Rate Districts in which the mines and reserves of United Electric are located serve separate and distinct markets from those in which the mines of Freeman are located.

Freeman produces coal with a sulphur content within the low limits permitted under local and federal air pollution regulations applicable to the Chicago area, and will likely be able to continue to serve that market. United Electric does not and cannot produce such coal, and thus will not be able to serve that market.

United Electric's contract with Commonwealth Edison, both its and Freeman's largest customer, expired in 1970 and was not renewed. United Electric's sales to Wisconsin Public Service and TVA were shown

to be complementary to those of Freeman and could not have been competitive, even if the companies had been independent.

In 1965, the reserves at the Mary Moore mine of United Electric played out earlier than anticipated, before United Electric's long-term contract with Illinois Power Company for coal from that mine had expired. Freeman stepped in and supplied coal from its Orient mines for the balance of the contract. *United Electric's existing contracts with Central Illinois Light Company, Northern States Power, and Union Electric are backed up by the reserves of Freeman and could not have been obtained without that guarantee.*

Moreover, United Electric's coal reserve prospects for the future are singularly unpromising. Evidence was presented at trial by experts, by state officials, by industry witnesses and by the Government itself indicating that economically mineable strip reserves that would permit United Electric to continue operations beyond the life of its present mines are not available. The Government failed to come forward with any evidence that such reserves are *presently* available. The evidence conclusively shows the critical importance of coal reserves to the successful negotiation of long term contracts with utilities. United Electric can hardly be considered a competitive force in the utilities market without sufficient reserves.

The adequacy of crucial resources is one of the factors which should be considered in assessing the likely competitive effect of a merger. *Brown Shoe*

Co. v. *United States*, 370 U.S. 294, 346 (1962). See also *United States* v. *Pennzoil Co.*, 252 F.Supp. 962, 979 (W.D. Pa. 1965); *United States* v. *Atlantic Richfield Co.*, 297 F.Supp. 1060 (S.D.N.Y. 1969). In view of the evidence presented on this issue, this court is of the opinion that United Electric, standing alone, cannot contribute meaningfully to competition. This factor persuasively confirms the cumulative testimony of consumers and competing producers that the United Electric-Freeman combination does not adversely affect competition.

SUMMARY AND ORDERS

The evidence presented by both parties in this divestiture action fails to support the Government's contention that the effect of the United Electric-Freeman combination has been or will likely cause a substantial lessening of competition. The challenged combination has been in effect since 1959, and yet no adverse consequences with respect to competition were shown either to have occurred or likely to occur. Particularly significant is the fact that for coal producers such as United Electric and Freeman, the utility market has become, and will undoubtedly remain, the only substantial outlet for coal production. Moreover, in the utility market, producers such as United Electric and Freeman face sophisticated, knowledgeable purchasers wielding great economic power and having formidable bargaining strength. Intense interfuel competition gives utilities and other

coal purchasers additional bargaining strength and places great pressure upon coal producers to remain competitive.

The increasing concern with air pollution problems will adversely affect coal producers, particularly high-sulphur coal producers such as United Electric, thereby imposing upon them a serious competitive disadvantage in their rivalry with other fuels.

The evidence supports the defendants' contention that United Electric and Freeman are predominantly complementary rather than competitive producers. The only evidence produced by the Government to support their claim of a substantial lessening of competition was statistics which fail to reflect the very real competition coal faces from other forms of energy, and which groups together coal producers into economically unrealistic markets while ignoring the key factor in a coal producer's market strength—coal reserves. Furthermore, evidence from numerous knowledgeable industry representatives, including competitors and customers of United Electric and Freeman, confirms the defendants' contention that the challenged combination has not led, and is not likely to lead to a substantial lessening of competition.

Finally, virtually all of the economically mineable strip reserves of United Electric have been sold under long-term contracts, and United Electric has neither the possibility of acquiring more nor the ability to develop deep coal reserves. Under these circumstances, continuation of the affiliation between United

Electric and Freeman is not adverse to competition, nor would divestiture benefit competition even were this court to accept the Government's unrealistic product and geographic market definitions. This court concludes that, upon the basis of reliable, probative and substantial evidence contained in the record, the challenged acquisition does not violate Section 7 of the Clatyon Act.

IT IS THEREFORE ORDERED that judgment be, and it is hereby rendered for the defendants.

IT IS FURTHER ORDERED that the complaint be, and it is hereby dismissed.

IT IS FURTHER ORDERED that costs be assessed against the plaintiff.

ENTER:

/s/ Edwin A. Robson
Chief Judge

April 13, 1972

APPENDIX B

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

Civil Action No. 67 C 1632

[Filed June 7, 1972]

UNITED STATES OF AMERICA, PLAINTIFF

v.

GENERAL DYNAMICS CORPORATION, ET AL.,
DEFENDANTS

NOTICE OF APPEAL TO THE SUPREME COURT OF THE UNITED STATES BY THE UNITED STATES OF AMERICA

Notice is hereby given that the United States of America, plaintiff herein, appeals to the Supreme Court of the United States from the judgment entered April 13, 1972, dismissing the complaint in this action. Appeal is taken pursuant to the Expediting Act of February 11, 1903, 15 U.S.C. 29.

/s/ John E. Sarbaugh
JOHN E. SARBAUGH

/s/ Howard E. Shapiro
HOWARD E. SHAPIRO
Attorneys
Department of Justice

CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of June, 1972, I served a true copy of the foregoing Notice of Appeal on

Reuben L. Hedlund
Kirkland & Ellis
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Chicago, Illinois 60601

by first class mail, postage prepaid.

/s/ John E. Sarbaugh
JOHN E. SARBAUGH
Attorney

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